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ORIGINAL ARTICLES.

ON THE PHENOMENA OF ELECTRICITY AND LIFE*

By J. MOUNT BLEYER, M. D., F. R. A. M. S.,
LL. D., NEW YORK CITY.

PART II.

Later researches have precisely fixed the conditions of this influence of electricity on the muscles. Continuous currents, led directly to these organs, produce contractions at the moments of opening and of closing the circuits; but the shock produced on closing is always the strongest. While the continuous current is passing, the muscle remains persistently in a half-contracted state, as to the nature of which physiologists disagree. Influenced by excitements rapidly repeated and prolonged for a short time, the muscles assume a state of contraction and shortening, like that seen in tetanus. In this state, as Helmholtz and Marey have shown, the muscle suffers a repetition of very slight shocks. Contraction is the result of the fusion of these elementary vibrations, indistinguishable by the eye, but capable of recognition and measurement by certain contrivances. Currents of induction produce more powerful contractions, but not lasting ones, which are succeeded, if electrization is prolonged, by corpse-like rigidity: Muscular contraction effected in such a case is attended by a local rise in temperature, proportioned to the force and length of the electric action. This increase of heat reaches its maximum, which may in some cases be four degrees, during the four or five minutes following the cessation of the electric impulse, and is due to the muscular contraction, which always gives rise to disengagement of heat.

The effect upon the nerves is very complex, and betrayed by movements and sensations very variable in intensity. Onimus and Legros state in general its fundamental laws thus: In acting on the nerves of motion, we see that the direct or descending current works more energetically than the other, with the reverse result on the nerves of sensation. The excitability of those nerves of a mixed kind is lessened by the direct and increased by the inverse current. This is true as to battery-currents, but currents of induction behave differently. While the sensation called out by the first is almost insignificant, the others, besides the permanent muscular contraction, produce a pain lasting as long as the nerve retains its excitability. The spinal marrow is one of the most active parts of the system. In the form of a thick, whitish cord, lodged inside the vertebral column, it constitutes a real pro-

longation of the brain, of which, under some circumstances, it takes the place. The unconscious depository of a part of the force animating the limbs, by means of the nerves sent out from it, it transmits to them their direction and power to move, while the brain is unaware of its action. This takes place in what are called reflex motions, and these occur in beheaded animals, through the simple excitement, direct or indirect, of the spinal marrow. Experiments may be cited, showing the action of electricity on those phenomena which have their seat in the spinal marrow. If a frog is plunged into luke-warm water, at a temperature of 40 degrees, it loses respiration, feeling and motion, and would die if kept in it a long time. When taken out of the water, and placed in this state under the action of the current, it contracts strongly when its vertebral column is electrified by an ascending charge; but no motion follows if the descending current is applied. On the other hand, if the latter is sent into a beheaded animal, stimulated to reflex motions by the excitement of the spine, it tends, as experiment shows, to paralyze these motions. In general, this is the law discovered by Onimus and Legros—the ascending battery-current, directed on the spine, increases the excitability of that organ, and consequently its power of producing reflex phenomena; the descending current, on the contrary, acts in the reverse way.

When the brain of animals is directly electrified, the modifications in circulation already spoken of result, but no special phenomena are observed. The animal shows no pain, and makes no movement, experiencing a tendency toward sleep, a sort of calm and stupor. Some physicians have gone so far as to propose electrization of the brain as a means of developing and perfecting the mental powers. Nothing hitherto justifies the belief that such a course could have the slightest influence for good over the functions of thought. On the contrary, it is very certain that the electric agent must be applied only with extreme caution to the regions of the head, and that it very easily occasions mischief in them. A strong current might readily cause rupture of the vessels, and dangerous hemorrhage in consequence.

Again, electricity stimulates all the organs of sense. Directed upon the retina, it excites it, producing sensations of glare and dazzling. When sent through the organ of hearing, it produces there a peculiar buzzing noise, and, if brought in contact with the tongue, it calls forth a very characteristic metallic and styptic sensation. And in the olfactory mucous membrane it creates a sneezing irritation, and also, it seems, an odor of ammonia.

The currents not only act on the cerebro-spinal nerves, and the muscles concerned in life, as related outwardly, but affect also the parts of the nervous and muscular systems devoted to the functions of nutritive life. Electricity by induction, applied to these muscles,

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causes contraction in them at the point of contact with the poles, while the part situated between the poles remains without motion. Continuous currents produce, at the instant of closing the circuit, a local contraction at the junction with the poles, and then the organ becomes quiet; if it is previous in action, motion ceases. In the case of the intestine, for instance, peristaltic movement is checked; and by means of electricity contractions of the uterus may be suspended in an animal, during parturition. In general, the fluid suppresses spasms of all the involuntary muscles.

All these facts relating to electric action upon the muscles and nerves have been the occasion, particularly in Germany, of laborious investigations, with which are connected the names of Dubois-Reymond, Pfleger and Remak. The doctrines of these learned physiologists regarding the molecular condition of the nerves in their various modes of electrization, are still very much disputed. It must be said that they are not supported by any experimental certainty, and perhaps the ideas developed by Matteucci supply better means for the general solution of these difficulties. This eminent experimenter opposed to the German theories about the electrotonic condition of the nerves certain evident phenomena of electrolysis, that is, of chemical decompositions effected by the currents. He supposed that the modifications of excitement in the nerves, brought about by the passage of electricity, depended on the acids and alkalies resulting from the separation of the salts contained in animal tissues. To this first class of phenomena may be added those electro-capillary currents lately observed by Becquerel. Here must be sought the deeper causes of that complicated and as yet obscure mechanism of the strife between electricity and life.

The effects of electricity on plants have been much less studied, experiments made on this subject being neither accurate nor numerous enough. We know that electricity causes contractions in the various species of mimosa, particularly in the sensitive-plant, that it checks the flow of sap in certain plants, etc. Becquerel has studied its action on the germination and development of vegetables. Electricity decomposes the salts contained in the seed, conveying the acid elements to the positive pole, and the alkaline ones to the negative. Now, the former injure vegetation, while the latter benefit it. Quite lately, the same experimenter has made a series of researches upon the influence of electricity on vegetable colors. Employing strong discharges obtained from friction-machines, he has noticed very remarkable alterations of color, usually due to the rupture of the cells containing the coloring-matter of the petals. This matter, freed from its cellular covering, disappears on simply washing with water, and the flower becomes almost white. In leaves showing two surfaces of different shades, as the begonia discolor, a kind of mutual exchange of colors between the two surfaces has been noticed.

II.

The physiological phenomena just spoken of are usually confounded in books with the facts of electric

medical treatment, and it seems better to distinguish the two classes. The true method consists in first explaining the phenomena displayed in the healthy organism, as the only way of understanding afterward those that are peculiar to disorders. Electric treatment forms a group of methods to be classed among the most efficacious in medicine, provided they are applied by a practitioner well trained in the theory of his art. Indeed, the most thorough physiological knowledge is essential for the physician who would make the electric current serviceable. Mere experimenting, even the most sagacious, must here be barren of good results—a fact of which it is well to remind those who impute to the method itself the failures it meets with in unskilful hands. It is true that, since the days of Galvani and Volta, physicians have used galvanism in the treatment of many diseases. Early in the century galvanic medicine was much talked of, and supposed to be the universal panacea. Galvanic societies, journals and treatises undertook to spread its usefulness. The fashion lasted a certain time, and would perhaps have grown indifferent when the discovery of induced electricity, due to Faraday, in 1832, called professional attention once more to the virtues of the electric fluid, and led to a new and interesting range of experiments. Yet it is likely that the true systems of electric medical treatment, after the extraordinary illusions of their earlier days had vanished, would at length have sunk into disuse, had they not escaped from the ruts of empiricism. With its usual boldness it had first gained them a high rank, which it had no power to maintain. It was experimental physiology, with its exact analysis of the mechanical effects of this fluid upon the springs of the organism, which made its application in the healing art sure, true and solid, as it now is. In this, as in all things, blind art has been the impulse to scientific research, which in turn steadily enlightens and perfects art.

It is singular that induction-currents have met with much better fortune than galvanic ones. The latter, the use of which introduced electric treatment, have gained real importance in physiology and medicine only within a few years, and after the reputation of induction-currents was well established, thanks chiefly to the efforts of Duchenne. A German physiologist and anatomist, Remak, who died thirty-six years ago, was the first to urge the singular remedial virtues of the voltaic current. Remak, after devoting twenty years to the study of the most difficult questions in embryology and histology, undertook, in 1854, the systematic examination and ascertainment of the action of continuous currents on the vital economy. He soon gained remarkable dexterity in dealing with the electric agent, and detecting with the readiest insight the proper points for applying the battery-poles in each malady. Those who witnessed in 1864 his practice at the hospital will remember it clearly. The methods of Duchenne were almost the only ones accepted in practice in France till Remak came to prove to Paris physicians the powers of electrization by constant currents in cases where Faraday's currents had been without effect. The teaching of the Berlin practitioner bore its

fruits. A rising young physician, Hiffelsheim, was beginning to spread throughout Paris the use of the constant current as a healing agent when death removed him in 1866 in the flower of his age. Another physician who benefitted by the lessons of Remak, Onimus, resumed the interrupted labors of Hiffelsheim, and is now busy in completing the system of the methods of electric medical practice by subjecting them to an exact knowledge of electro-physiological laws. A few instances from the mass of facts published on the subject will serve to show how far the efficiency of these methods has actually been carried.

Experiment proves that, under certain conditions, the electric current contracts the vessels, and thus checks the flow of blood into the organs. Now, a great number of disorders are marked by a too rapid flow of blood by what are known as congestions. Some forms of delirium and brain excitement, as also many hallucinations of the different senses, are thus marked, and these are entirely cured by the application of the electric current to the head. No organ possesses a vascular system so delicate and complex as the brain, nor is there any so sensitive to the action of causes that modify the circulation. For this reason disorders seated in the brain are peculiarly amenable to electric treatment, and when carefully applied it is remedial in brain fevers, mental delirium, headaches and sleeplessness. Physicians who first employed the current were quite aware of this benign influence of the galvanic fluid over brain disorders, and even had the idea of utilizing it in the treatment of insanity. Experiments in that direction have not been continued, but the facts published by Hiffelsheim justify the belief that they would not be barren. These facts testify to the benefits that electric currents (we mean only continuous ones) may some day yield in brain diseases—a point worth the attention of physicians for the insane. Till lately it was thought that electricity was a powerful stimulant only, but what is true of interrupted currents is not true as to currents from the battery. Far from being always a stimulant the latter may become in certain cases, as Hiffelsheim maintained, a sedative and calming agent. This control over circulation, joined with the electrolytic power of the galvanic current allows its employment in the treatment of various kinds of congestions, sterilizations and destruction of tissues. A congested state of the lymphatic ganglia, the parotid glands, lungs, etc., may be relieved by this means, the current acting in such cases both on the contractility of the vessels and the composition of the humors.

In cases of paralysis more than any others electricity displays all its healing power. Paralysis occurs whenever the motor nerves are separated from the nervous centres by any injuring cause, or by any modification of texture impairing their sensitiveness. With a destroyed nerve paralysis is incurable, but in case of its disease only its functions can almost always be restored by electric treatment. As there is always some degree of muscular atrophy in the case, electricity is directed upon the nerves and the muscles at once, and the battery and the induction current usually employed to-

gether. As a rule the first modifies the general nutrition and restores nervous excitability, while the last stimulates the contractile power of the muscular fibres. The difference of action between the two kinds of currents is clear in certain paralyses, in which the muscles show no contraction under induction currents, while under the influence of constant currents they contract better than the uninjured muscles. Experiments made some years ago in Robin's laboratory on the bodies of criminals executed proved that after death muscular contraction can still be produced by Volta's currents, though Faraday's current has no such effect.

When the motor nerves are in a state of morbid excitement they compel either muscular contractions that are lasting, as tonic spasms or intermittent ones. The different motor nerves most commonly excited are the facial nerves, the nervous branches of the forearm or the fingers, which are affected in "writer's cramp," and the branches of the spinal nerve, whose irritation occasions *tic douloureux*, chronic wryneck, etc. Now electricity cures, or at least noticeably benefits, these different morbid states, and exerts the like influence over neuralgic and neuritic affections, wherever these disorders are not the symptoms of other deeper maladies. Currents restore the normal activity of nutrition in the diseased nerves and the corresponding muscles; they act on rheumatism, too, in the most beneficial way, modifying the local circulation, quieting the pain and stimulating reflex phenomena, which are followed by muscular contractions. Erb, Remak, Hiffelsheim and Onimus have proved beyond question this salutary action on swellings of the joints either in acute or chronic cases.

The discoveries respecting the influence of electricity over the spinal marrow have been used with advantage in the treatment of such disorders as arise from unduly excited activity in this organ, such as chorea, St. Vitus' dance, hysteria and other nervous convulsions more or less similar. We cite two instances of this sort published by Dr. Onimus, giving an idea of the mode of applying the current in such cases. A child twelve years old was seized with a frightful attack. Every five or six minutes it lost consciousness, rolled on the ground, then grew so rigid that none of its limbs could be bent. The attack over, it regained its senses, but the least impression at all vivid, sufficed to bring on a new attack. Ascending currents were first applied to the spinal marrow. The child was at once seized with a violent crisis. Descending currents were then used for fifteen days in succession, after which the little patient regained health. A young girl aged seventeen, in an hysteric condition, presented very strange symptoms in the larynx, the velum of the palate and the facial muscles, among others a sort of barking, followed by vehement sniffing and horrible grimaces. By placing the positive pole in the patient's mouth against the arch of the palate, and the negative pole on the nape of the neck, all these morbid affections were completely subdued. The disposition of the poles in the reverse order on the other hand aggravated them. After sixteen repetitions of electric treatment the young girl was almost completely cured, retaining only a muscular twitch of

little importance compared with her former ailments. Several cases of tetanus also were treated with complete success by similar methods. This terrible disease, the most fearful of all surgical complications, is due to an organism which produces an acute inflammation of the spinal marrow. It is followed by such an alteration of the motor nerves that all the muscles of the body experience general contraction and a painful rigidity that by degrees attacks the vitally essential organs. When an attack of this kind reaches the muscles of the chest and heart death occurs through asphyxia. In such a case the continuous current is applied over the wound for some time so as to sterilize it, and this generally restores the motor nerves to their normal state. Two other chronic diseases of the spine, the first being particularly serious—progressive muscular atrophy and locomotive ataxy—often yield to the rational use of electricity, or at least are checked in their progress, the natural issue of which is death. It is worth remarking that these two disorders were discovered and described by Duchenne in the course of his researches into this method of treatment. Electricity served his purposes of diagnosis, as it serves in physiology as a means of study, taking in that science the place of a kind of reactive agent, and revealing functional differences that no other process could have detected. To it alone, according to the way in which it affects a nerve or a muscle, belongs the power, under certain circumstances, of determining the nature and even the degree of alteration in nervous or muscular elements.

Aldini said that galvanism afforded a powerful means of restoring vitality when suspended by any cause. Several physicians at the beginning of this century restored life by this means to dogs after they had undergone all the processes of drowning and seemed dead. Halle and Sue proposed at that period to place galvanic machines in the different quarters of Paris, particularly near the Seine. This wise and useful plan has not yet been put into execution, though all experiments made since that time confirm the proof of the efficiency of electricity in cases of asphyxia and syncope, produced either by water or by poisonous gases. The galvanic current also restores respiration in cases of poisoning by ether or chloroform, even when recovery seems hopeless. Surgeons who understand this effect remember it whenever chloroform seems dangerous to the patient under its influence. The secret lies in its oxydizing power.

Electricity is transformed into heat with great ease. If an intense current is passed through a very short metallic wire it heats, reddens, and sometimes vaporizes it. This property has been taken advantage of by surgeons for the removal of various morbid excrescences. They introduce a metallic blade at the base of the tumors or polypi to be extirpated, and when this kind of electric knife becomes incandescent, under the influence of the galvanic current, or other currents they give it such a movement that the diseased part is separated by cauterization as neatly as with a cutting instrument. This method, which avoids effusion of blood, and is attended by only slight pain, has yielded excellent results in the hands of Marshall, Middeldorpf,

Sedillot and Amussat. Besides this application, in which heat plays the chief part, electricity has been used to destroy tumors, by a kind of chemical disorganization of their tissue. Crusell, Ciniselli and Nela-ton have made decisive experiments of this nature. Petrequin, Broca and others suggest the same method to coagulate the blood contained in sacs, in aneurisms. If this novel surgery is not so widely known and used as it deserves to be, the reason is that the manipulation of electric instruments requires much practice and dexterity, and surgeons find the classic use of the scalpel more convenient.

This rapid historical view shows that the method of treatment by electricity is useful in very many diseases. Whether resorted to to modify the nutritive condition, to quicken or check circulation in the small vessels, to calm or excite the nerves, to relax or stimulate the muscles, to burn or detach tumors, electricity if managed rationally is destined to do distinguished service in the healing art. The range of treatment by heat is less considerable, yet of some extent. The examination of the medical value of treatment by light has scarcely begun, nor has much been done toward the study of weight pressure in their relations to medical science. At all events, there is now forming and gaining increased development alongside of the medicinal use of bodies, a medicinal use of forces—besides the physic of drugs, a physic of powers. It is impossible to say at present which of the two will definitely prevail—more probably both will be called on to render valuable services to art.

The first savants who studied the action of galvanic electricity on dead bodies, and saw them recover motion, and even an appearance of sensation, supposed they had touched the secret of life, likening to the vital principle that other force which seems to warm again the frozen organs and restore their springs. Slight reflection on the facts collected in the foregoing pages reveals the thorough illusiveness of such a hope. Not only is electricity far from being the whole of life, but it cannot even be regarded as one of the elements of life, or be compared, for instance, with nerve-force. In fact, the experiments of Helmholtz have proved conclusively that such a comparison contradicts the truth. What is the peculiar sign of the vital forces and of vital unity, or the definite expression of their simultaneous action in one organism, is precisely organism. But electricity has no causal relation with organization proper. That is the work of some higher activity. That power in action, whatever it be, takes to itself all the forces of Nature, but it links them, co-ordinates them, and fixing them into special conditions, compels their service to the purposes of life. Gravitation, heat, light, electricity, all these forces are maintained within living beings—only they are there disguised under a new phenomenal unity, just as oxygen, hydrogen, carbon, nitrogen and phosphorus that make up a nerve-cell vanish in it in a new unity of substance, without ceasing to exist in it as distinct chemical elements. The inorganic powers of Nature are as essential to life as lines and colors are in the composition of the painter's picture. What would the picture be without the

painter's soul and labor? The picture is his peculiar work: the physico-chemical forces are the lines and colors of that homogeneous and harmonious composition which is life. In it they would want meaning or power, if they did not in it, by the operation of a mysterious artist, undergo a transformation which raises them to a dignity not theirs before, and assigns their place in the supreme harmony. Thus, in the infinite solidarity of things, there is, as Liebnitz dreamed, a constant uprising of the lower toward the higher, a steady progress toward the best, a ceaseless aspiration toward a fuller and more conscious existence, an immortal growth toward perfection.

AN EQUATION OF RESPONSIBILITY.

BY EDWIN W. PYLE, M. D., JERSEY CITY, N. J.

Fellow of the Academy of Medicine, New York, Assistant Surgeon Eye and Ear Infirmary, N. Y.

That all are "creatures of circumstances" finds response in every experience, but youth is particularly influenced by its unalterable surroundings, the character of which too often decides destinies.

The medical student's life is the infancy of his professional career. His selection of a mode of practice is not a subject of his own choosing so much as that of a predecessor. In his advent he is not prepared to wrestle with the much perplexed question of "schools," but later his own individuality becomes an important factor. He learns the history of his calling, and notes the difference between theory and practice. If he has joined a sect in medicine and becomes dissatisfied with the character of his diploma, and regrets the limitations which it imposes upon him, where shall be placed the responsibility?

There are in the United States 147 homeopathic societies, 113 hospitals, 69 dispensaries, 43 journals and 15,000 practitioners, graduates of 20 colleges. When we note the flourishing condition of their institutions, and observe among the adherents men of conscience, character and understanding, many of whom are successful physicians in the most appreciative circles, the conclusion must be, there is a force in their methods and in the men themselves.

Hahnemann has caused more important changes in medicine than any other man since the time of Galen, but the title invented for his doctrines has to a large measure, outlived the practice of his teachings.

Let us contract two periods of our own recollections. We remember when homeopathic medicines were used mostly in the 30th and 200th dilutions—now the potency factor is past resurrection, and the dose no longer "precludes the perception of anything medical."

Then, pharmaceutical energies were devoted to "potentizing," even to the 40,000th; now, to manufacturing compound tablets, etc., in direct antithesis to the "single remedy," once "honored in the observance."

Then, it was incumbent upon every student to swallow "the trinity of doctrines"; now, a few lectures on physiological therapeutics take the place of extreme postulates.

Then, every form of sickness had to succumb to its similitum or die; now, to use medicines for direct physiological effects is universal practice, and no longer "heresy."

Then, the strongest element in homeopathy was in the application of the law of similars; now, in the dispensing of goods received from Park, Davis & Co., or some kindred manufacturer.

Then, the graduate was content with the teachings of his Alma Mater, but in 1899 300 physicians are taking post-graduate courses in the "regular" schools.

This modern trend is the law of progress and demands a readjustment of name and curriculum on the part of the colleges, not only to make the dual action of the prescriber's hand consistent, but to overcome an increasing spirit of dissatisfaction among the younger alumni.

Twenty-five years covers many of the most significant changes in medicine and surgery.

Clinical experience has taught us the self-limitation of diseases and hygiene has risen to the dignity of a science. New discoveries have given character to medical art; they have infused a spirit of exactness and have enriched medical literature.

The microscope has revealed new fields of investigation; bacteriology has revolutionized our methods, and pathology has become a veritable pyramid, founded fact upon fact. Yet, during all this period homeopathy has been so rooted in the past with a faith and adoration in itself so absolute that it has not added to our libraries one book of recognized authority upon any of these subjects; the application of its fundamental law of similars has not developed one new principle in preventive medicine; has not given one new method to modern surgical evolution, and scarcely one line to the general knowledge of the medical world.

The suggestions of Hahnemann, in perfect asepsis and in careful regard for the laws of nature, which has been looked upon as the real source of cure, struck the key-note of what followed in progressive medicine; but his disciples, like the proverbial sons of rich inheritance, have fallen behind in the triumphal march of scientific investigators.

With all our new creations,
How ever apt their introduction,
There comes a time when round the world
There needs to be a reconstruction.

Homeopathy may be very efficient in its own particular line of thought, but it lacks those resources without which every physician must feel himself shorn of influence. Its *Materia Medica* is its stock-in-trade—the child of a century, chaotic, unauthentic, paralyzing.

For the various toxæmias it offers nothing of practical value as compared with the salines; for the neuralgias of vaso-motor disturbances, nothing that will afford relief like the coal-tar derivatives; for the blood discrasia of syphilis, it has no potassium iodide; absolutely nothing for iritis; nothing for the dangers of post-partum hemorrhage; nothing for convulsions of the puerperal state; not an evacuant; not a topical application; not a reliable analgesic; not a trusty hypnotic; not a drug that possesses diagnostic value; not

a reference to the pathology of disease, or to bacteriological products. Weakest in emergent conditions, strongest when little is needed.

Symptoms tell us how the system is responding to disease and are in evidence when physical signs are unavailing.

The therapist can treat successfully affections of which the pathologist knows little, as rheumatism, but the true bases of therapeutics should rest upon the causes of disease rather than upon drug pathogenesis.

To illustrate: The microscope gives evidence that bacteria in the intestines produce toxins which are absorbed into the circulation, and affect vital organs in varying degrees of intensity. The same toxins do not produce like symptoms in every one, and from the same food different individuals elaborate different toxins. Simple poisoning may give rise to temporary or to prolonged infection or to chemical putrefaction, so destructive as to destroy intestinal integrity. Thus in one class of cases we have the explosive sick headaches; in another, cholera infantum, fevers, diarrhoeas, lithaemias, bilious colds or inflamed throats. Such a diversity of symptoms are not covered by drug pathogenesis, and can be rationally treated only from pathological bases.

The modern treatment of enterocolitis most beautifully illustrates the evolution of medicine and the necessity of departing from old usages. The discovery of the presence of micro-organisms in the intestines has not only given the key to the proper treatment of this dreaded malady, but has furnished the prophylactics as well. Such beneficent knowledge could never be attained from the *ignis fatuus* of symptomatology.

The New York Homeopathic College has made an effort to supplement the deficient materia medica, and to avoid the errors of symptomatology by introducing a chair to teach the physiological action and the therapeutic uses of all important drugs—a most creditable movement that should be imitated by every sister college.

This would supply a need experienced by every graduate. It would make the curriculum the same as in the "regular" school, plus homeopathic materia medica. It would give the most liberal education respecting all medicines and methods that might be demanded. It would disarm criticism in harmonizing teaching and practice which are now discordant. It would make the homeopath true to his modern definition of himself, viz.: "One who has added to his knowledge of medicine a special knowledge of homeopathic therapeutics." Special learning of any sort enlarges a doctor's sphere of usefulness. He may well acquire familiarity with foreign language without the accomplishment changing his nationality or becoming obtrusive.

The word "homeopath" is correctly applied in designating a history in medicine or a specialty in therapeutics, but incorrectly to hospitals, colleges and individuals. It debars the latter from rights and privileges which should be common to every graduate in medicine. It signifies only a minor part of his duties, and occasions an ostracism that has been drawn out to a degree most tiresome and deplorable.

These barriers should be broken down, and henceforth division in medicine should no more exist than in the exact sciences. Physicians should concentrate efforts, and disregard "pathies." This can never be realized so long as one branch adheres to a name which by evolutionary changes and limitations has become a misnomer. To drop the word would emancipate many alumni whose scientific minds have outgrown narrow confines. It would end the gossiping rehearsals among the laity which even more than the colleges engender sectarian bigotry. It would place the school once more in the line of progress by broadening a platform upon lines of greatest liberality. It would accord to every physician the privileges of all fellowship, and the choosing of professional associates upon "personal integrity and individual preference."

Were it possible to destroy every therapeutic work in the homeopathic school the energy of reconstruction would winnow the grain from the chaff and place it on a foundation co-equal with the times in which we live; but while resting on a narrow base, burdened with present literature, supported and perpetuated by a coterie of self-lauders who proclaim, "we are homeopaths and of the most scientific school," it will never be done.

In medicine, as in the commercial world, supply is regulated very much by demand. It would have been better had the general profession of fifty years ago acknowledged the truth for which Hahnemann's followers contended—that nauseating doses were unnecessary and crude empiricism deleterious.

The history of medicine illustrates "that modern therapeutics only attains perfection when it approaches most nearly to the teachings of Hippocrates"; that in most instances had simple water been administered, and those natural means which automatically operate to maintain health, been employed, the sick would have been benefitted and the doctors' reputations improved. No system of medicine was ever far wrong wherein nature and humane motives predominated. These facts have been well observed outside of the profession, and by years of education and discussion there has risen a demand for a form of homeopathic treatment that has, unfortunately, given a spirit of commercialism, for which the physicians are not entirely responsible.

Human nature instinctively hungers after the incredible. The public does not analyze methods. It is too often misled by the title "homeopathic doctor." It calls his individuality "homeopathy"; his hygiene, his surgery, his combination tablet, his liberal administration of "regular" school medicines, and the forces he wrings from nature are never divorced from but are credited to "homeopathy." This is manifestly unjust and needs correction. The general profession is accused of appropriating homeopathic ideas, without giving due credit. However much or little, things that are Caesar's should be rendered unto Caesar. Hahnemann was not the first to rise above the empiricism of his time. Paracelsus, Von Helmont, Stahl, Storck and John Hunter, all declared against the errors of Galen and foreshadowed the necessity of reform. The simili-

tude between the physiological action of certain drugs and certain morbid conditions has always been acknowledged, but never falsely construed to be the law of therapeutics. Dr. Baruch has written, "when we compare the crudities of Hahnemann with the fatal doctrines which have weighed like a nightmare upon the practices of our predecessors, we discern very little cause for the diatribes that have been launched against homeopathy. Medicine is really indebted to Hahnemann for having dared to set his face against the fatal spoliative practice which dominated the entire medical world." This is a generous, dignified tribute that should not only carry solace, but should stand in marked contrast to the medical hide-bound illiteracy of some homeopathic journalism.

Surgeon-General Sternberg, in his address before the American Medical Association, sets forth the true dignity of our profession. He tells us we are living under a new dispensation. Modern medicine has left the beaten track to become both progressive and aggressive. It makes no objections to one's added knowledge from whatever source; it places no restriction as to mode of treatment, so long as we conform to facts. It has no professional rules to prohibit prescribing dilutions, or associating with any class of reputable physicians. It does, however, protest against the teaching of sectarianism. It does object to a conglomerate practice under a homeopathic ensign.

It should be remembered that the "regular" profession has given all the later elaborations in which the glories of medicine are being won. It has given us the discoveries with reference to the causes and the prevention of infectious diseases; the new methods for clinical diagnosis and surgical evolutions; the remedies upon which all must rely in times of greatest therapeutic need, and that it has filled our libraries with the choicest books of authority, to which the world must turn for all that is definite in medical knowledge. From such a record no student of to-day can afford to be divorced.

The Roman Empire was safest under her tyrants, but when the Praetorian Guard commenced to make and unmake rulers, her fate was sealed. Homeopathy was strongest when Hahnemann's teachings were absolute; but as the reconstruction of medicine on new lines continues, there is little left to constitute it a distinct school, and still less to engraft sectarian discord.

In consideration of these facts, of the diverse changes that have been wrought in practice; of the total lack of unanimity in belief; of the dependence upon remedies for physiological effects, and of the now entered wedge to teach their therapeutical uses, it must appeal to every judicial mind as being only wisdom to go one step further and retire the word "homeopath" to worthy history, and to graduate the student a free, untrammelled physician in the most liberal sense.

It is the plain duty of all medical colleges to confer upon their alumni, diplomas of such character as will command recognition from our government and from every society and fellowship in the length and breadth of our land.

COMPLETE EXCLUSION OF THE INTESTINE, IN THE TREATMENT OF INOPERABLE ABDOMINAL TUMORS.

BY HOMER I. OSTROM, M. D.

Surgeon to the Metropolitan Hospital, New York.

The great strides made in abdominal surgery within the present decade have narrowed the line between tumors that can and those that cannot be removed, and many cases that were formerly relegated to the domain of palliation only are now successfully operated upon. This change is in the main due to two causes. First—Our better knowledge of the morphology, and pathology of malignant growths, their origin, their life history, and their post-operative behaviour. Second—Our respectful familiarity with the abdominal organs, and their functions, as well as the manipulative skill acquired by repeatedly meeting and overcoming problems which confront us, even in the most straight going operations. Add to this our recognition of the true functions of the peritoneum, and heed to its physiological demands, in our technique. The keystone of the arch of abdominal surgery I believe to be, our treatment of the peritoneum.

The exercise of the functions of this great serous membrane will always decide for or against the success of any operation we may perform upon parts to which it forms a covering. It is our friend, as well as our enemy, and we will find the history of abdominal surgery to be written upon the peritoneum.

Until we can successfully remove malignant tumors from the abdomen—this attainment we must at present acknowledge is far from being reached—their existence will be regarded as an opprobrium to our art; but while we labor in the direction of perfecting radical operations, not having accomplished all that we would, our second concern should be towards developing such means as will offer relief from suffering, and prolong life.

The treatment which I here advocate—I wish to disclaim any originality for the operation itself—will accomplish no more than this, save possibly by removing irritation, and by controlling the blood supply to the new growth, it ceases to be nourished, and hence is arrested in its development. This is known to be a physiological fact in the history of tumors generally, and may under conditions that still remain obscure, check the development of malignant neoplasms. Fibroid tumors, and cancers of the uterus, have in some instances been held under control by ligating the uterine arteries, or even higher in the source of blood supply of the uterus. But even if this principle is correct, our present application of it must be imperfect, for new growths are prone to develop adventitious blood channels and an entirely new system of blood circulation. While, therefore, we are able to cut off the normal arterial trunks, the abnormal ones are beyond our reach, save by a technique as extensive as that which would remove the entire growth.

The causes that lead to the fatality of malignant tumors of the abdomen may be said to be predisposing and contributing. The first are inherent in the disease,

which from its very nature and essence is incompatible with the maintenance of organic function, which is health. The second, or contributing cause, is marked by mechanical interference with the functional activity of abdominal organs. Such is the result of pressure upon the intestine when the growth is not primarily developed in the intestine, or of reduction of its caliber when the growth is not in its walls, but increases concentrically.

Against this latter or contributing cause of the fatality of malignant abdominal tumors, I wish to present for your consideration and discussion the advisability of completely excluding that portion of the intestine which is involved, thus shutting off from the fecal current the whole of the diseased area without making any attempt to remove the tumor, the object being not curative but palliative, and to prolong life with a modicum degree of suffering, and avert if possible the horrible death from intestinal obstruction.

A study of the malignant growths involving the intestine in one way or another, shows us that all portions are not equally affected. That, excluding the stomach, with which organ we are not now concerned, the acute curves of the large intestine seem to offer the most favorable fields for the development of cancer. Just how much the increased obstruction to the passage of the fecal mass natural in these locations may contribute to the irritation which seems to be an essential part of such a pathology is a matter for speculation; the two contributing facts seem in their constancy more than a mere coincidence, and may almost be regarded as cause and effect.

The ileo-colic valve, the sigmoid flexure, and the rectum, each offers a physiological lodging place for the effete mass, and if, as it seems likely, bacilli have to do with the growth of cancers, such organisms may, under the conditions named, stagnation and irritation, find favorable fields and soil for development; it is a fact, that in these locations cancer is more frequent than in any other parts of the intestinal canal. The mucous membrane of the intestines offers a protection against the invasion of disease when intact, but when abraded, as it is liable to become from irritation, the conditions are changed, and the structure becomes a favorite location for the development and growth of the most malignant neoplasms known to pathology.

While physiologically any portion of the intestine can be cut out and excluded from the length of the canal, this is not true anatomically. It would for example, be well nigh impossible to successfully attach the transverse colon to the rectum in the event of the malignant growth involving the descending colon; the tension would be too great, and the intervening structures in such relations as to invite failure. We, therefore, must at present acknowledge limitations to even this palliative operation, and confine it to those cases in which the growth can be excluded by securing continuity between portions of the large intestine; more narrowly, but not exclusively, to cancer involving the ileo-colic region. I say, not exclusively, because non-removable tumors may invade portions of the small intestine, which will suggest, and warrant, making an anastomo-

sis between more remote points of the canal; or the colon may be involved, and the small intestine secured to the sigmoid flexure, thus excluding the entire length of the large intestine; but the treatment of malignant neoplasms by complete exclusion, will apply mainly to cases in which the growth is situated in the region of the caecum.

The operation need present no problems foreign to intestinal anastomosis performed under other conditions. The surgeon of experience in abdominal work—and none other should undertake this operation—will not plan his technique upon hard and fast lines, but will decide as he proceeds whether the anastomosis will be end to end, or lateral: whether it will be accomplished by means of plates—including Murphy's button—or sutures. Other things being equal, I prefer end to end apposition, and silk sutures, the only abdominal operation in which I now give the preference over cat-gut. But these, and similar questions, each surgeon is best fitted to decide for himself. The general rule when operating on malignant growths, to cut wide of the line of infiltration, and the more general rule in surgery, to avoid tension, will serve to indicate the length of the section to be excluded.

One point in the technique, however, may properly arrest us for brief consideration. It is not clear, whether or not the portion of the intestine including the neoplasm shall be completely or incompletely excluded. That is to say, whether the excluded portion shall be left in communication with the intestine below the anastomosis, and in direct communication with the external wound, or whether it shall be at once and completely shut off from the intestinal canal. Of course, end to end anastomosis will necessitate complete exclusion, but this method of dealing with the intestine is secondary to the question under consideration, and while complications belonging to the individual operation may decide in its favor, and therefore result in end to end anastomosis, the latter as an integral feature of the operation, is secondary to the question of complete or partial exclusion of the diseased portion of the intestine.

If we would derive the full benefit from this palliative treatment of malignant tumors, and happily accomplish more than mere relief from suffering, and prolongation of life, we should plan our technique with a view of cutting off nourishment, and removing irritation from the neoplasm, which we acknowledge ourselves unable to eradicate. If our operation only establishes a communication between healthy portions of the canal, thus diverting the main fecal current, but leaving the diseased area in connection with the intestine, and so forming a permanent fecal fistula, this object is defeated, for while the greater portion of feces will pass onward, there will occasionally be a backing up of the flow, and in agreement with its frequency, will the local irritation continue.

With this incomplete exclusion, the arterial supply also remains, and the nourishment of the growth continues almost as free as before the operation. Therefore we ask: Why should not the operation be complete exclusion, as against partial occlusion? What advantage is gained by leaving the part which we

wish to exclude still in communication with the intestinal canal?

Then again, the incomplete operation insures a permanent fistula—for there is little likelihood that this will heal spontaneously—with all its hateful sequela.

I have done this operation twice for the relief of cancer involving the ileo-colic region. In both instances an end to end anastomosis of the intestine was made, one end of the excluded portion closed, and the other secured to the abdominal opening to provide for drainage. One case was comparatively easy; the other, mistaken before opening the abdomen, for the exudate following recurrent appendicitis, presented such adhesions, and general matting together of structures, that the technique was most difficult, and emboldens me to say, in view of this case, that complications need never stand in the way of making end to end anastomosis of the intestines. Both of these cases were successful in the object for which the operation was performed. Suffering was relieved, intestinal obstruction averted—an evitable result of cancer in this location—and life prolonged, in one instance six months, in the other, eleven months. The last case, that in which the patient lived almost a year, was perfectly successful, inasmuch as the fistula healed completely seven months before death, which was the natural result of systematic intoxication. In the other case the fistula never healed, the discharge consisting of the broken down tissue of the neoplasm. This case was far advanced at the time of operation; had it been operated earlier, the result would probably have been more satisfactory. As it was, the intestinal anastomosis left nothing to be desired, and while in both instances the local disease seemed to be arrested, the fatal issue was delayed, was painless, and due to systemic involvement.

This brings us to the general observation concerning malignant growths, frequently made, but I fear, not as frequently a basis for our treatment; that success lies in early operations, and that only palliative treatment is left for us when the erratic cell growth has invaded other than the primary seat of development. When will the laity be educated to consult the physician upon the first appearance of an abnormal growth in any part of the body? and when will the general practitioner appreciate the value of referring such cases to the specialist? I regard it as a duty, second to none in our calling, to impress this matter upon our patients. We should not make light of even the least deviation from the normal standard of tissue building, or nourishment, and we should instruct the people privately, and publicly, to mark any such departure, and without delay obtain expert opinion upon its nature. On the other hand, we as surgeons should, by our probity and skill, give the general practitioner such confidence in us, as to be not only willing but glad to refer such cases to our judgment, and to place them in our hands for treatment. Such mutual confidence would I believe, result in the saving of many lives, for there is little doubt that many operable tumors are rendered inoperable by delay in recognizing their true nature, and applying the curative treatment, an early and radical operation.

Though not a part of the original plan of this paper, I feel justified in here referring to a further application of exclusion of the intestine, that I have had an opportunity of making since the title was sent to your chairman. I refer to the closure of fecal fistulae by excluding that portion of the intestine which contains the fistulous opening.

Such fistula will occasionally follow the most skillfully performed operations, for we cannot with certainty say when a repaired intestine will give away, or just the extent to which the intestinal wall is damaged, or what the mechanical effect of drainage will be upon the parts where pressure is made. Formerly they were more frequent than now, as the result of neglected appendiceal abscesses that ruptured externally, but when they develop, from whatever cause, they are a source of annoyance and chagrin to the surgeon, and of unspeakable discomfort to the patient.

With more frequency than the novitiate expects these fistula heal spontaneously, but at other times they resist every effort made at closure. Beyond a certain point, curretting, cauterizing, astringents, and packing are useless. The same may be said of attempts made to dissect out the intestine—an almost impossible procedure—and unite the liberated ends. The mutilation necessary for such an operation is fatal to successful surgery, and the tension of the opposing ends of the canal so great as to invite failure.

The case I refer to, which has induced me to depart from the original plan of this paper to report, was a fistula of several years' standing, the result of appendectomy for neglected, deep seated suppuration, and a gangrenous appendix and caecum: one of the gravest cases I have operated upon.

This fistula resisted every means of treatment I could devise, including the classic operation of dissection, and anastomosis. The latter, for a time, seemed to promise success, but finally the tissues broke down, and the previous condition was repeated. I opened the abdomen in the right linea alba, about two inches inside of the fistulous openings. Without regarding the mass of cicatricial tissue at the site of the fistula, I sought the ilium, and the ascending colon, cut out completely the region of the fistula, and brought these portions of the intestine together with a lateral implantation by means of Murphy's button, making in the manoeuvre a new caput coli.

After curretting the old fistulous track, I closed the recent abdominal wound, leaving the fistula open. At the time of the operation, soiling of the abdominal cavity was guarded against, by passing a double ligature through the mesentery, and around the intestine, before the latter was incised. There were thus four of these ligatures passed. Both ends of the colon were closed with purse-string ligatures. The function of the intestine continued without interruption, and the fistulous track healed rapidly.

—Largely increased hospital accommodations are being provided in the Philippines to meet the present condition. Five hundred hospital tents have been sent to Manila and two hundred members of the hospital corps and fifty female nurses.

THE NEURON THEORY.

HERMAN GASSER, M. D., PLATTEVILLE, WISC.

In that blissful state of existence, after a good Sunday dinner, sitting on the veranda, when all nature seems in harmony and the functions of the body with digestion are going on with that ease and equilibrium that lulls us into the delightful state of reverie or ennui, when we "think of nothing" and consciousness is without intensity or direction, with no concentration of thought or determination of effort, we are in the highest and most ideal state of physical life. It is this composite state of the body with its diffused consciousness and intelligence we may call feeling in its most ideal form.

A local change in this physical organization of the body or even an external stimulus of any kind causes a concentration of this diffuse state of feeling into a single state of feeling that for the time is supreme. We are at once engaged in the activity of conscious intelligence. Our attention is concentrated into a single idea. Not only the whole body, but the entire outside world responds to and influences its direction until it has expended its energy.

From this and experiences similar in kind we are justified in formulating the conclusion that a movement in a definite direction takes place only when a difference of the parts of the body exist. This idea is probably best illustrated by "the larvae of a certain butterfly that hatch in Germany in the fall and hibernate in large numbers in a web on trees and shrubs. The warm spring sun drives the larvae out of their nest, and they creep upward on the branches of the tree until they reach the highest points, where they find in the young buds their first food." This is the instinct of their organized experiences or memories to reach in the direction of the stimulus of the rays of the sun. Otherwise they would die.

The vital processes of the different organs of the body have demonstrated that the living element is in the cells of the body, its structural element. Also, that the co-ordination and adjustment of all in the brain is the state of their equilibration expressed in the term of general vital feeling with all its forms and phases. We must always have a stimulus and a body that is irritable. "The irritability of living substance (says Verworn) is its capacity of reacting to changes in its environment by changes in the equilibrium of its matter and its energy." It, however, happens that at times a small quantity of energy may set free a large quantity of the stored up vital energy of the organism, like a foreign body in the larynx. The stimulus sets in activity a whole series of connected vital phenomena like the percussion cap, the potential energy of nitro-glycerine.

In such cases we have a well organized and healthy body to react normally to the stimulus of the environment. But every day we come in contact with persons that give us their conscious testimony that their bodies in some local organ or generally is not performing functions in the regular and accustomed way, that cause distress and pain, and we call it disease.

All diseases are the result of the changes local and general of the cells and organs of the body. In every disease with symptoms or states of consciousness and feeling similar in character the anatomical and histological conditions are alike in kind. Symptoms are the result of the morbid or changed conditions. Symptoms were and to a large extent are still the essence of the case in insanities. The underlying causative conditions have been ignored until recent times. Today the underlying morbid condition is the essence of the case. The insane states of consciousness we now know are the result and not the cause of the histological changes in the brain. While the subjective symptoms of the body in general are the result of its functions as equilibrated in the brain, "mental" change is the result of change of brain with its changed function, and in the same sense as jaundice is the result of change and function of liver and gall-bladder. Consciousness is the symptom or synopsis of the organized brain function and a change in it will cause changed states of consciousness as a result of its perverted function. Consciousness is that state of symptom of the motor function of the brain that is characterized by its amount, rapidity, coherence and frequency, and as they vary, so does intelligence and character. Each organism is an individual equation, the measure of its reaction or function on the forces of the outer world.

With these general considerations let us for purpose of illustration, briefly consider a disease with which we are all more or less familiar with the cause, conditions and symptoms: delirium tremens. It will be our purpose to delve down into the depths of the changes in its anatomy, physiology and psychology as it is understood in the light of modern scientific investigation in these varying departments. It should be remembered what is true of this disease is equally as true of every other, and in this sense illustrates the general scope of modern scientific medicine.

The prime cause of delirium tremens is the continued and excessive use of alcoholic stimulants. The first and earliest symptoms of their use is loss of inhibition expressed in the forms of volubility and motor excesses of all kinds, and when continued for a long time eventually brings about an acute chaotic and incoherent state of conscious and motor actions. What is its pathology? Setting aside the changes in the stomach, liver and other organs, let us direct our attention to the brain. Up to very recently there were no changes in the brain except that it was a "wet brain," but the recent studies by the lately discovered methods of staining have unraveled an entirely new field of nerve-pathology.

When Nissl announced his differential staining of the nerve cell by which its ultimate structure and function could be studied in health as well as disease, a good advance was made in our knowledge of physiology and pathology, not only of the nervous system but of medicine in general.

In the examination of the cortical cells in the brain in a case of death by delirium tremens we notice marked changes in their appearance. The chromophilic bodies always present in the healthy cortical brain cells are almost dissolved out and the whole cell ap-

pears somewhat changed. This becomes especially interesting and suggestive when we remember that this definite technique of the same cells in health and disease gives us a variable and definite result of their appearance, caused by the destructive processes of alcoholism. It also gives us a pathological fact that would lead us toward the conclusion that the chromophilic substance is at least an important part of the inhibitory function of the brain cells—that the chaotic motor symptoms of acute alcoholism are accomplished by these changed states of the inhibitory cortical cells of the cortex. But we have a much wider range of evidence to support this conclusion; for we have the same pathological condition in insolation, rabies, and other diseases, the characteristic symptoms of which display the same general convulsive tendencies.

The living nerve cell is alkaline which a few minutes after death is acid, and when stained by the methods of Golyi or Nissl have no real resemblance or function of the living cell, but the fact that certain nerve cells always react in a definite way to chemicals is of good value not only in physiology and psychology, but in pathology.

It may also be important to remember that it is the substance of the cell bodies that undergoes these changes mostly, and that we must attribute the special functions of which inhibition is the most important, and not to the nucleus as was formerly believed, for it is now generally agreed that the prime office of the nucleus in all cells alike is to preside over nutrition.

This not only leads us back to the statement already made, that all diseases with symptoms similar in kind depend upon the same order of pathological changes, but from what has been said and from what we know of the general function of the nervous system and brain, we are justified in the belief that the chromophilic substance is the inhibitory function of the brain and cord.

As the nerve cells are the most highly organized and plastic cells of the body, and adjust and equilibrate all the other organs and functions of it by their power of inhibition into states of general equilibrium, it becomes apparent at once that they must undergo changes more easily; and when diseased or changed the character of their function becomes changed. Their power of inhibition is weakened. This is why we have the "loss of will" with the chaotic mentality and the convulsive movements which we find is not only true of delirium tremens but all other diseases that produce similar functional symptoms. The symptoms are the expression of their histological changes. This is why they are similar in kind.

We call these pathological because they are destructive and tend toward death. They are, in fact, their physiological function—the physics of their organization just as ordinary physiology is the physics or function of the healthy body. In psychology "it is not reason which uses passion, it is passion which uses reason to reach its end."

It seems that in all subjects of investigation the phenomena of which are obscure, every special student invests it with a so-called "classical" nomenclature, that

it must be admitted, is always hazy and by which they advertise their special studies, but give no clear light to the ordinary student. They leave them groping in the wilderness of the terms created in their obscure erudition. This is so, no doubt, because they still see things darkly in spite of their classic terms.

The brain and nervous system is a part of the organism. Its function holds a certain and definite relation with all the other organs and functions of the body, and in the same sense as the functions of the heart, lungs and liver hold certain definite and continuous relations with all the other organs and functions of the organism. It is and always must be a continuous and coherent relation of all. This is the only real and intelligent conception we have of life as a whole.

It was because of such a fundamental conception of life that in an address nearly three years ago I stated that the neuron theory of Waldeyer was inadequate and incomplete for it failed to explain many of the familiar experiences in physiology and psychology. It will be our purpose to briefly look into its claims.

The method of Weigert stained the medullary sheaths of the nerve fibres to the nerve cells, while the method of Golyi stains the nerve cell and its processes the medullary sheath. The conclusions of these anatomical investigations have been formulated by Schafer.

1. "Every nerve cell is a structural element anatomically isolated, but physiologically connected.
2. "Physiological continuity is due to ramified processes and contact of these with other processes; other neuron bodies.
3. "That the same nerve impulses do not necessarily pass from one element of a nerve chain to the next, but that more probably new impulses, often of a different rhythm, are generated in the successive elements of the chain."

This gives us the "neuron," or in other words that each nerve cell is an anatomical and independent unit with a complete nervous mechanism. It is also admitted that the nerve cell and nerve fibre are anatomically alike, that it is an outgrowth of the cell and always carries "impulses" outward or from the cell. That the protoplasmic processes are different or variable in structure and function; are the "sense organs" or receptive apparatus by coming in contact with other processes.

If this is true, it must be at once apparent that the directions of nervous energy must be centrifugal or outward. The question then arises how do they receive the sensory impulses? for all the neuron bodies are alike! "It follows from this (they say) that the passage of a nervous impulse from one cell to another must take place through contact or contiguity of the nervous elements." If they are all motor in function how does this become possible? This is the weakness of the "neuron theory." It explains, after a fashion, the anatomical and physiological connection of the motor side of the nervous system but not of the sensory side.

There are no connections between the sensory fibres

and dendrons. No evidence of how sensory nerves tetraminae and send energy to dendrons.

If the "end tufts," "gemmules," "contact bulbs" or "dendrites" have only a motor function how can they communicate nervous energy one with another?

From what we know experimentally of physiological time it must be certain that there is a continuous connection for the transmission of sensory nervous impulses and motor functions the result of the ordinary experiences in life, for education or training is but the organization of the nerves for the regular and continuous transmission of sensory impressions into volition.

The pianist may converse with a friend and yet play a difficult but well remembered piece of music. It is impossible to conceive that this activity can be other than a continuous and well organized memory, the result of practice and training.

This is why the neuron theory is improbable physiologically and impossible psychologically. They picture and formulate sensory connections with the neuron bodies, but give no evidence. It is all hypothetical, all diagrammatic. That there are neuron bodies in the brain is not only possible, but probable. That they perform the all important functions attributed to them is hardly conceivable.

General experience is more valuable than hypothetical and diagrammatic deductions, especially when they have no stronger basis of existence than the imagination. The organs of the body, like the liver, lungs, stomach, muscles, in common with the heart, brain and nerves, are developed in all organisms by a long graded and connected process, and are in continuous and incessant relations, and this is especially true of the nervous system for it co-ordinates, unites and regulates them all into a complete entity.

In the disease now familiarly known as "gastric crisis of tabes," we now know that it is not only a symptom of tabes, but may be the result of any disease of the nervous system that causes exhaustion of it; as well as any disease, local or general, by its disturbance of nutrition, and especially of the central nervous system.

As exhaustion of the central nervous system with its changed nutrition is especially manifested in the functions controlled by the pneumo gastric nerve, and as the pneumogastric nerve is more radically and persistently influenced by the central changes in the nervous system because it carries the greatest intensity and volume of nervous energy in the circulation of the nervous system by its direction and control of the most permanent active and established functions of the organism, the lungs, stomach, heart and liver, it is not surprising that the symptom complex known as "gastric crises" may be the result of any condition of the system that causes cerebral exhaustion.

The neuron theory certainly has by its investigations given us a vast amount of facts of incalculable value, but the interpretations of them, studied from the points of view of the physiologist and psychologist show them to be incomplete, and which later investigations demonstrated erroneous. It was the best evidence we had in its day. Later investigations have not

only demonstrated that the non-fibrillar neuron bodies do not exist as such, but also their fibrillar formation.

The fibrillar substance is a highly differentiated form of protoplasm and not connective tissue and enters into the formation of the grey matter and is intimately connected with nerve cells which they connect from the dendrite of one cell to another without passing through the cell body, although the majority pass through them.

In the Bithe preparations the Nissl bodies are dissolved out in the process of staining. In the nerve cell and its processes "there exists (says Stewart Paton) a definite and specific fibrillar substance which connects the cells with each other as well as with the intercellular substance." This is also the testimony of other investigators and destroys the "neuron theory."

One of the most unfortunate experiences in the work of man is the fact that we place too much reliance upon the work of great masters. Nothing in the history of mankind has been more thoroughly demonstrated than the fact that these great masters have, often for long periods of time, led mankind intellectually astray. It is difficult for us to admit and understand that we are all very much constituted alike, not only physically, but intellectually; but in the end it is always simmered down to "what do you know" and is it in harmony with and will it endure the critical examination?

To the real student in his pursuit of truth no one can win such deep-seated admiration and respect than he who will show that his methods lead to erroneous conclusions; for the greatest fact in life after all to him is the system of the mystery of existence. While the system is assuming a related and tangible form the mystery is as profound as in his childhood.

While we are continually discovering and unraveling the forces of nature and thereby enlarging our relations to them, and thus increasing the length of our days, our comforts, and happiness, we fool ourselves when we think we know more of the mystery or reality than our forefathers, or even the ancient students and thinkers.

THE THERAPEUTICS OF THE BROMIDES.

BY JOS. ADOLPHUS, M. D., SO. ATLANTA, GA.

The potash salt causes cerebral anaemia as its primary influence. It is liable to produce melancholia, delusions, loss of memory. These are brought on by large doses. When they are present as symptoms, small doses are best. Large doses cause passive congestion of brain, in small doses it is curative in these congestions. When the face is flushed, eyes red, quick hard pulse, or if delirium is present along with the flushed face, red eyes, etc., potass. bromide is indicated. When the face is pale, pulse quick, soft and weak, use bromide of ammonia, which is a stimulant to the vasomotor system. When there is sleeplessness, nervous agitation, melancholia symptoms, ammonia bromide will cause restfulness and sleep, possibly small doses of strophanthus may profitably be added. During pregnancy, the flushed face, red and bright eyes, hard pulse, potass. bromide and blue cohosh check the bad mental symptoms and produce sleep.

Teething children, when fretful, worrying, nervous, eyes bright, pulse quick and hard, gums red, tender, swollen, potass. bromide dissolved in milk (5 to 20 grs. to fl. oz.), bathe gums and mouth. Change for better is soon produced. I have had excellent results when a few grains of soda sulphite are added, the combination is sedative and anaesthetic to the excited mucous membrane of the gums and mouth. For the local anaesthetic effect if the bromides on mucous membranes, the soda salt I think more likely to sedate the gums than the potass. salt.

The night terrors of children can be finely controlled and cured by the bromide of soda in 1 to 2 grs., repeated in 3 or 4 hours if required. However, the first dose of 2 grs. to a child of 2 to 3 years old most generally suffices to cure.

When there is active congestion of the ovaries and uterus, painful menstruation, owing to the excited state of central nervous mass presiding over these pelvic organs, these symptoms are finely controlled by bromide of sodium. Should the case prove stubborn, I add full doses of viburnum prun; the two are helpful to each other in these pelvic troubles and appear to act as sedatives to the organs involved. Bromide of potassium and bromide of ammonia combined in equal quantities appear to me to afford far better results in treating many diseases of the nervous system than either alone. In most of these nervous diseases, attended by pain in some organs, in restlessness, or dry cough, or cough more moist and dependent on irritation of the laryngeal nerves, or of the vagus proper, especially the fibres that supply the lungs and stomach, I have found bromide of sodium and the ammonia salt well adapted to controlling and curing the cases. Some cases of sleeplessness, in nervous affections, face pale and heart weak, I like the ammonia salt, to which I add collinsonia with excellent results, inasmuch as this medicament is a fairly good heart tonic and helpful to the bromides.

Bromide of sodium is certainly preferable to the potash salt in all cases of a chronic kind, weak heart, quick, soft, compressible or small pulse, pale face, dullness of eyes, tongue pallid and trembling. This salt also is best in all irritations of mucous membranes, cough, nervous agitations, pain after eating, sense of great pressure in stomach, fermentation of food and so forth. In these later cases I add sulphite of soda; the two are anaesthetic and sedative to mucous membranes. Weak heart is present.

Children in the height of dentition are overwhelmed many times by a sudden apparent collapse of the nervous system, or something very nearly this condition. There is a sudden burst of diarrhoea, beginning with looseness of the bowels, soon running into watery discharges, offensive in odor, the countenance soon becomes pinched, skin cool, pale and bloodless, yet there is a state of passive congestion of the mucous coat of the whole intestinal tract. The brain and its membranes are suffering the same way, heart is weak, pulse quick and feeble. These cases are benefited by the bromide of ammonia in grain doses, repeated often, heat to extremities, if thirst and vomiting are urgent,

iced water, as much as the child will take, must be allowed. Under favorable circumstances, the whole train of symptoms are quickly held in check and may be entirely removed by the medicament. Give the medicine regularly.

Bromide of ammonia is one of the best vasomotor stimulants in small doses, it contracts the arterioles, sedates nervous excitement and stimulates capillary circulation through the cerebro-spinal axis and the sympathetic, through which later it makes mucous membranes and glands anaemic and removes congestion.

Some constitutions are admirably affected by the bromides, bad symptoms of a nervous type are removed by these medicaments, in small doses. Their best action is obtained, their therapeutic force being spent in diminishing excessive quantities of blood in organs, through their vaso-motor action. In large doses they do harm by causing paresis of the vaso-motor centres, the arterial coats lose their tone, blood in colossal quantities enters the tissues, the circulation is weak, slow, and congestive. The bromides are double edged swords some times; we must study each case to administer them, so as to be on the alert. I stop their use in cases they are not adapted to on account of idiosyncrasy. Some times large and very full doses of the bromide of soda succeed in cases where the ammonia salt should have cured.

In some forms of colic in young children, in which the belly is retracted, hard and knotty, the intestine can be felt, sometimes seen to undergo contraction into a hard ball, often the attacks are periodic. In this class of cases I advise grain doses of potash bromide and 1-2 gr. of quinine, administered every hour, dry heat to abdomen, a few drops of essence of ginger in hot water repeated along with the above. In some forms of constipation in young infants I prefer grain doses of bromide of soda and a mixture of leptandra and rhubarb, all combined; the bromide acts as a nerve to the intestinal muscles which are suffering a form of paresis, the leptandra and rhubarb in small dose cause gentle aperient action. I have for years used this treatment in this class of cases with satisfaction.

There is no mistake about the correctness of the opinion of some physicians that the bromide of potass. in small doses, given in proper cases, removes reflex nervous irritation, sedates the exalted centres and causes restoration to a peaceful state so that the patient rests free of pain or excitement.

I wish to draw attention to the value of bromide of soda and gelsemium in pretty fairly full doses in many cases of uterine colic and ovarian neuralgia. I have repeatedly used this combination with decided satisfaction in this class of cases.

Twenty years ago I treated an old lady for pneumonia; one of the results of the disease was utter restlessness and sleeplessness, which in point of fact was tending rapidly to her death. Every remedy I tried was a failure. Finally I gave her 10 grains of bromide of ammonia every hour. After taking the fourth dose she went into a calm sleep, profound and restful, which lasted five hours, from which she awoke quite refreshed and a feeling of well being pervaded her whole system,

desire for food returned which she relished. From this time convalescence was established. This bromide salt is one of our best remedies in all cases in which a stimulant and sedative is desired, especially in children.

The bromide of potassium is a powerful sedative to the nervous system. One of its prominent therapeutical and physiological properties is to cause anaemia of the brain and cord, which soon becomes opposite in effect; the anaemia is turned into a paresis so that the vascular area of the nervous mass is in a state of parietic dilatation and the nervousness is surcharged with blood.

I have seen some of the worst cases of melancholia produced by it and have known the whole muscular system to be partly paralyzed, owing to the paresis of the nerve centres and weakened circulation. In these cases small doses of strychnine and strophanthus act in an opposite direction, by stimulating the nervous system and strengthening the heart.

Before concluding this article I wish to give a short synopsis of the physiological action of the bromides.

Taken as a whole, all the bromides are vasomotor stimulants; they act notably in constricting the arterioles and capillaries of the cerebro spinal axis, making them and their membranes anaemic, and to a certain extent the mucous membranes are affected in the same way. The primary action of the bromide of potash is notably in this way.

Within certain limits the bromides sedate reflex actions and quiet irritation of tissues in virtue of their action on the cerebro spinal axis.

The bromide of potass. is a powerful depressant of the cerebro spinal centres in large dose, also when smaller doses are too long continued. It lowers the tone of the whole arterial system, causes passive congestions, weakens the heart and a catarrhal state of all the mucous membranes appear.

In the first stage of Bright's disease attended with high blood pressure, hard pulse, strong heart, high nervous irritation, I believe the bromide of potass in moderate doses is a valuable remedy, but it must not be carried too far for reasons already given, inasmuch as when the depressing effects of this bromide are produced, recovery from them are slow and often very protracted, or not at all. When the face is pale, tongue trembling, eyes more or less dull, I eschew the potass. salt and use the soda salt with excellent results. There are particular cases that call for bromides; in them this salt acts some times like magic, removes congestion, sedate irritation of the nerve centres, produces quiet and restfulness; the doses must be small and oft repeated; large doses, though at times remarkably successful, are, in the main, seriously objectionable. In many diseases of children I believe the bromide of soda is a gem of the highest value and he who knows best how and when to use it is truly master of the situation, because these medicines, especially the soda or ammonia and potass. salts mixed in equal parts, do remove erythsm of the nervous mass, quiet irritations, and cause rest and sleep better than any other medicament I know of. I have seen every now and then, an intensely colliquative and exhausting diarrhoea suddenly burst

out in teething children, cured promptly by a mixture of bromide of ammonia and potass in 3 grain doses repeated every hour. As soon as the diarrhoea slackened the doses were given at intervals of 4 hours, in a few hours; the medicament was withdrawn, and the case was nearly cured. The cause of this symptom was, no doubt, erythsm of the brain.

I believe the bromide of soda far preferable to the potash salt, for reasons I won't stop now to recount, but every posted man knows. I also often mix the soda and ammonia salts in many of these cases with excellent results. The ammonia salt is a fine cerebro-spinal stimulant, at the same time a desirable sedative to reflex irritations.

The bromide of soda is the best correcter to the tendency of quinine to cause ringing in the ears, headache, congestion of the brain and other unpleasant symptoms which many of these patients suffer who take large doses of quinine.

I have given 10 grs. of quinine and 20 grs. of soda bromide to patients who had congestive chills with very happy effect of breaking up the disease. I repeat the doses every 2 hours several times, then extend the intervals. Patients soon become conscious and the algid state is broken up. I have treated scores of cases of this kind in this way with uniform success. If this chill was difficult to overcome I administered nitroglycerine, which seldom or never failed. This latter medicament in 1-100 grain, repeated 2 to 4 hours apart, very often arrests pernicious chills, while quinine cures them.

THE FAILURE OF ANTITOXIN IN THE TREATMENT OF DIPHTHERIA.

In a statistical study of the antitoxin treatment of diphtheria (abstract of a paper in the Medical Record) he says it must not be forgotten that in late years there has been a decline in the death rate of other infectious diseases than diphtheria, against which no new remedy has been directed. Thus while in German cities the present mortality from diphtheria is still 41 per cent. of its former rate, the typhoid fever death rate is only 35 per cent. of what it was during 1877 to 1894. In St. Petersburg, between 1885 to 1889, the typhoid fever mortality was 7 per 10,000 population, and only 4 during 1890 to 1894.

Kassowitz shows that the scarlet fever mortality in the German cities decreased 30 per cent., and that of diphtheria only 20 per cent. from 1895 to 1896.

Much of the decrease in the infectious disease mortality is due to sanitary improvement, and this is one factor which is usually ignored when the antitoxin question is considered.

Another thing which should be kept in mind is this: Antitoxin statistics are based on the treatment of cases which have been diagnosed as being diphtheria by the microscope; and comparison is made with the results of treatment in the past, of cases which were diagnosed on their merits as being examples of clinical diphtheria. This factor in increasing the number of cases reported and thus reducing the case fatality is admitted by Lotz and Tavel, and others, and it is a fatal admission; it cuts off the last leg of the antitoxin argument.

THE MEDICAL TIMES

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OF

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EDITORS:

ROBERT GUERNSEY, M.D., LL.D. ALFRED KIMBALL HILLS, M.D.

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THE NEW YEAR.

A flower unblown, a book unread;
A tree with fruit unharvested;
A path untrod; a house whose rooms
Lack yet the hearts divine perfumes;
A landscape whose wide border lies
In silent shade 'neath silent skies;
A wondrous fountain yet unsealed.

The attention of our readers is called to the many changes which we have inaugurated for the Medical Times in beginning the new year. These innovations are in the line of progress, and we hope that our readers will agree with us.

First, we desire to call attention to the slight change in form which we have adopted, thereby increasing our space slightly and very much improving the appearance of the Journal. Second, the increase of editorial notes, which will hereafter be a leading feature. Third, the reduction of the subscription price to one dollar per annum, which we are able to do, in consequence of the large increase in this and in our advertising departments.

The "Times," as is well known, is not published in the interest of any mercantile business whatever, but by medical men, in behalf of their colleagues.

It is not published for the purpose of making money, its main object being to help its readers in their life work, and additional subscribers to its list means increased value of the publication, and thus the work becomes one of reciprocity. Our readers will observe that their efforts in increasing our subscription list will return to them in the shape of better material contained in its pages, because we shall be able to buy it. We expect and intend to double our subscription list within the next few months, and we will promise that our subscribers shall have the first consideration in the way of increased value for their money. The sooner this is accomplished, the quicker the returns in this direction will begin to appear.

We hope to have the support and aid of each individual reader in our undertaking. We also want the help of our readers in furnishing material for publication. Send us short crisp articles, professional experience which will help a brother practitioner when in need, ask pertinent questions which will lead to profitable discussion, and do not fail to criticise in writing for publication, any article which you may deem worthy, in the interest of increasing knowledge. Please bear in mind that your interests are our interests and vice versa, and that we intend to do our part faithfully. Will you do yours?

A comparison between the beginning and the end of the nineteenth century, not taking into consideration the underlying forces and the succeeding steps of progress, would seem like passing from one world to another on a much higher plane. But a study of the unwinding of the chain of progress, link by link, would show no miraculous change, but an expansion of mind, an evolution of thought along certain logical lines, the recognition of the freedom and strength of the individual will, ever stronger and more enduring as it worked in harmony with the laws of nature, and through them universal freedom and happiness. It is true the progress of the nineteenth century in every department of industry and science has been unequalled in the history of the world. But is not this the fruitage of centuries of thought, germinating, expanding, and slowly unfolding as the ages rolled away? The thoughtful student of history is not unmindful that the great truths foreshadowed by Plato, Socrates, Aristotle and other great fathers of close reasoning and logical thought were the germs, which have survived the ages, of the science, religion and philosophy which in the ripened brain and the quickened thought of the nineteenth century have ripened into such a glorious fruitage of truth, freedom and happiness.

In religion, the prayer of Homer, centuries before Christ, is only second in beauty, in sublimity and concentrated power to the Lord's Prayer: "O Sovereign Jove, asked or unmasked, all good bestow; all evil, though implored, deny."

What more terse and more comprehensive than the aphorism of Hippocrates, which outlined in a few words the great lines of thought in the medical world of the future and crystalized them into a unit. Separated from each other as they have been, and made the basis of theories which have been the centre of bitter conflict in the medical world through long centuries, the close of the nineteenth century finds the medical profession uniting under the standard of Hippocrates in his grasp of the resources of nature, and fully realizing the illustration of the bundle of fagots, bound together, is stronger than each one standing by itself. The theology of the world was so materialistic in its nature, so permeated with animal passion, so full of superstition, as to exert but little abiding force in stimulating the better nature of humanity and directing it along the lines of freedom of action based upon a just estimate of the rights of the individual.

The crisis came at the close of the eighteenth cen-

ture, when the whole civilized world was startled at the wild burst of vengeance and the cyclone of blood which ushered in and marked the progress of the French Revolution of 1793. The lethargy of centuries was broken. Every mind was active. The very air throughout the world vibrated with free thought, kept alive by the stirring events which followed, in which the boundaries of nations were changed, old dynasties wiped out and new ones created. The story of Napoleon's campaigns in Italy in 1795, in Egypt in 1798, at Marengo in 1800, and Austerlitz in 1812, was told in every hamlet and hovel throughout the civilized world. The elements of superstition and dogmatic authority received a crushing blow. Thought was emancipated, the intellect brightened and quickened, and the germs of great truths, the elements of future progress, gathered from the almost silent records of the past and set as showing stones in the science, the philosophy and the progress of the nineteenth century.

Hahnemann was thirty-eight at the time of the French Revolution, when the mental thralldom of generations was shattered as by a whirlwind. Will any one question the immense influence for good he exerted upon the medical thought and progress of the world? Errors there undoubtedly were in his philosophy, but how much were they overbalanced by the blow dealt to the gross materialistic philosophy of the past, and in bringing out in clear, strong relief the spiritual nature of man and the action of the finer forces of nature in preventing and relieving human suffering. And this is the keynote of the progress of the nineteenth century. The line on which every progress is made in science, in all the industries of the world, is a careful study of the finer forces of nature and their adaptation to the higher development of the spiritual and physical nature of man. We see it to-day in the closing of one of the great dramas of history. Three hundred and fifty years ago the empire of Charles V. circled the globe and was the greatest military and political power in the world. The year 1898 finds all that is left of this mighty empire confined in territory to the Spanish peninsula.

Cabot Lodge, in his history of the war with Spain, justly says: "The final expulsion of Spain from the Americas and the Philippines is the fit conclusion of the long strife between the people who stood for civil and religious liberty and those who stood for bigotry and tyranny as hideous in their action as ever cursed humanity."

If we look to the religious world we find the golden thoughts of the ancient sages, Hermes, Buddha and Krishna, shining brightly across the gulf of ages, their rays mingling with the prayer of Homer and of Christ, forming, with the sermon on the Mount and the beatitudes a theology in which love supplants fear, leading to the cultivation of good for its own sake and the rewards it surely brings.

The medical world includes in its curriculum of study all science utilizing the investigations and the light thrown upon the finer forces of nature in solving the problem of life. We are looking less to the power of

drugs gathered from the mineral, vegetable and animal world than to those subtle influences which exist in the generative forces of nature, and reach us through the sunlight, the atmosphere, the water and the earth, and to mental culture in the higher planes of thought. For us it is evident that the study of the leading medical minds of the world to-day is along the same lines of thought, their scientific investigations leading to the same results.

And so, the editors of The Times, in looking back through the more than twenty-five years of journalistic life at the work they have accomplished, and forward to what they hope to do, they can find no more fitting sentiment to commence the new century than that voiced by the Martyr President on the battlefield of Gettysburg, "With malice towards none; with charity for all; with firmness in the right, as God gives us to see the right, let us try to finish the work we are in."

A recent law allows cities of the first class in this State, to equip and maintain outside of their corporate limits and with the approval of the State Board of Health, hospitals for the regular treatment of the disease known as pulmonary tuberculosis. This seems like a wise and beneficent provision, and should be carried out in accordance with most advanced and practical methods. We trust that the money appropriated for this purpose will not be squandered in costly buildings, for such are not only unnecessary but not adapted for such use.

What is required is plenty of land in a suitable locality where detached cottages may be built in such a way, that they can be thoroughly disinfected at frequent intervals, and will admit of that classification of patients which is a *sine qua non*.

The selection of a site in this vicinity is a point presenting some difficulties. It should be so located that it can be reached with economy as to time and expense.

The quality of the soil and the natural facilities for drainage, the absolute freedom from malarial germs, and from long continued dampness, the necessary Southern exposure and many other requisites should be carefully considered.

A light sandy soil where the water soon soaks away after rain, and consequently a minimum of dampness remains, is ideal in this respect. The water supply is another important element in the selection, and it must be pure and soft.

There are many other points which will suggest themselves when the subject is really under investigation by competent minds.

We trust that this enterprise will not be placed in the hands of politicians to develop, but rather that it may be submitted to a board of competent, honest, unprejudiced physicians and laymen, who will work in the interest of all concerned, regardless of immortal influence.

The Marine Hospital Service is making experiments with a Venezuela shrub in the treatment of leprosy. It is said upon good authority that cures have resulted from its use.

A CHANCE FOR THE "ANTIVACKS."

"Groff (Medical News, Nov. 25.) gives an account of the vaccinating of the natives of Porto Rico, and the stamping out of smallpox, which was there endemic. The total cost of the work was \$32,000, and at the present date not a single case of smallpox is known to the military or civil authorities of the island."

Now, according to Mr. Tebb and his disciples, vaccination, on the one hand, does not prevent smallpox, while on the other, it is "a more prolific source of consumption, tumors and cancer, septic and skin diseases in their lasting effects, than the worst epidemic of smallpox has ever proved to be." If these assertions are correct, smallpox has not been "stamped out" in Porto Rico, but has merely decreased in consequence of improved sanitary conditions. The general death rate, however, will inevitably become higher, owing to a much greater prevalence, caused by vaccination, of the other diseases above mentioned. This greater prevalence, if it occurs, can be readily verified through official statistics, exhibiting the comparative state of health upon the island, before and after vaccination (which, of course, will be kept up), and the result will be either to establish the claims of the anti-Jennerians or to demonstrate their utter absurdity. Why not make a clinical object lesson of our new possession, and settle this needless controversy at once and forever?

TOBACCO AND BACTERIA.

According to a paragraph now going the rounds of lay journals, a new function has been discovered for the all-pervading microbe, in imparting flavor to tobacco. Mr. Clarke Nuttall declares that the characteristic taste and smell of the leaf, the peculiar aroma which renders it grateful to the smoker's palate, are due entirely to the action of bacteria. The leaves when gathered are left for a certain time to dry and wither, after which they are stacked together to induce fermentation. It is in this process that the activities of the microbe come into play, for myriads of these organisms are evolved, converting by their action the decaying mass into the "fragrant weed" of commerce. A German bacteriologist, Dr. Suchsland, after diligent research, not only discovered the secret of the transformation, but succeeded in cultivating and transplanting its microscopic agents, and by introducing those taken from the finest West Indian weed into a heap of poor German tobacco, actually converted it into leaf of a very high quality, which connoisseurs failed to trace to its lowly origin. In Florida, which has started tobacco culture on a large scale, and in 1897 exported 160,000,000 of "Havana" cigars, a special laboratory has been established for the investigation of the bacteria of tobacco. The question is asked whether they may not flourish on other leaves, and perhaps transform common cabbage into a smoker's ideal.

Ambulances and automobiles assume the "right of way" in our streets, and the doctor who is in a hurry to reach an emergency case, must stand aside and allow these vehicles to pass. There should be an

ordinance against the clanging of gongs by ambulances, except in urgent cases, where delay might endanger life—and these are very rare—and there should be a heavy fine for deception in this respect. Gongs are a noisy nuisance which should not be endured silently by the public. In the majority of instances in which they are used there is no occasion and it is these to which we refer. The public is very gracious and thoughtful in allowing "messengers of mercy" the right of way, and these agents have no rights which should warrant them in abusing the courtesy.

It is a wonder that some terrible accident has not occurred in our thoroughfares from the reckless driving of these ambulances. There should be some responsible supervision in the public interest.

The automobile seems to have come to stay, and it is a great menace to public safety. They have no right to rush through our streets ringing gongs or blowing horns for a clear passage. What is a long suffering public to do for the protection of life and limb?

Our editorial of last month on the subject of hazing brought us many responses, which shows that there is more interest felt in the subject than we supposed.

It was only last year that one instance of hazing did great injury to a college class by several months suspension, and threatened serious complications to the institution itself.

In this case the initiative was with the freshmen, who "painted the town," without remonstrance from the faculty.

The sophomores were encouraged by the juniors and seniors to retaliate, which they did, and in consequence were suspended, greatly to their injury. In this case it seems to us that the faculty were to blame for not stopping the thing in its incipency.

It looks as if the college communities needed a police force of its own, to put a stop to disturbances of the peace at once, and the presence of such a force would undoubtedly prevent the majority of such troubles. There should be some plan devised for the protection of our sons when they go to college, and if the faculties cannot do it, then the municipal authorities should.

We are pleased to note that through the influence of Supt. Col. Mills, hazing has been stopped at the Military Academy, West Point, through the voluntary action of the students themselves, perhaps induced by the fact that the War Department was considering the suggestion of Commandant Hein, that to the oath of admission should be added a vow that the candidate would not haze, or allow any cadet to be hazed. If the cadets are not faithful to their vows, then the Department will undoubtedly take the action proposed above. This is an example for other institutions to follow, and we shall be on the lookout for the first to inaugurate this reform.

A leading French paper has taken a plebiscite on the question of reform in female costume, with the result that every reply denounced the attempt

for the masculinization of women's dress noticeable during the past few years. While all the ladies questioned argue that while that which is pretty should not predominate over the practical in their costumes, they nevertheless protest most energetically against the idea of the practical replacing the pretty. In other words, they would rather have a shorter life in beautiful and graceful costumes, than a longer one if compelled to submit to the less beautiful but more healthy dress.

THE SOUTH AFRICAN WAR.

Inasmuch as it is now the heat of summer in South Africa the climatic peculiarities at the seat of war are beginning to prove important factors in the progress of military movements. While the climate cannot be worse than during our Cuban campaign or in the Philippines the humid months from November to March will tell almost as heavily in the destruction of life as the fighting. The average temperature is about 72° and the maximum 98°, the severe heat waves usually breaking up in violent thunder storms resulting in very heavy rainfalls. In consequence of such heavy inundations a cavalry reconnoissance may be rendered impossible, while the mobilization of artillery and infantry is liable to those long delays which have so often in stirring campaigns been fraught with fatal effect to armies. There are two diseases in South Africa prevalent among cattle and horses which may create inconvenience and delay in transportation. We mean the rinderpest and the South African horse sickness. The rinderpest as described by the London Lancet is a specific malignant and highly contagious fever, characterized by acute inflammation of the mucous surfaces. It is essentially a bovine disease, and is spread only by communication from sick to healthy animals. Statistics published in 1898 gave the total number of cattle in Cape Colony prior to the breaking out of the rinderpest as 1,639,435. Of these 575,864 were destroyed. Scientific investigation has done much to reduce the fatality of the disease, but it is still an important factor to be taken into consideration in the present war.

The horse disease is of a most fatal character. In Natal alone during 1892, 13,979 horses fell victims to the malady. The origin of the disease has never been fully ascertained, but is supposed to arise from a fungus which forms abundantly during the night when there is a heavy dew.

The war has brought into use in the form of the lyddite shell one of the most destructive agents of modern warfare. Lyddite is obtained by the fusion of picric acid, which is in its turn manufactured by the action of nitric acid upon phenol. Packed in a shell and fired by a fuse the explosion produces such a terrific concussion of air that it is not only destructive to life in the immediate vicinity of the explosion, but has been known to kill at a distance of 200 yards. With such terrible destructive agents as have been introduced into modern warfare it would seem to be hardly possible for any war of long duration, except what might be called a guerrilla warfare with small bodies of swift moving cavalry in mountainous localities. With all the fatality of

modern warfare facts will hardly bear out the report said to have been made by Lord Methuen that the battle of Modder River was the bloodiest one of the century. The number of Boers engaged in this contest was about 8,000, while Gen. Methuen was only in command of one division of the British army sent to the Transvaal, so that if this were the bloodiest battle of the century both armies would have been annihilated. We should naturally suppose that the increasing destructiveness of weapons of modern warfare and the more enlightened views of the public would lead to such a rapid decrease of the war spirit as to speedily substitute for the carnage of the battlefield the just and logical thoughts of the council chamber, but it is a sad comment on these facts that during the last two years in the face of the peace congress which has only recently been held, and while the world has been crying peace! peace! over 41,000 men have been killed in battle, sadness and poverty been carried into thousands of homes, and untold millions of money drawn from the support of human life to its destruction. And yet we are told the time will come when men shall beat their swords into plowshares and their spears into pruning hooks, and thus come war no more. God hasten the time.

WHO IS RESPONSIBLE?

Every interesting case touching the responsibility of the operating surgeon for the proper supervision of the patient after the operation has been performed, has recently been tested in a suit for damages against a leading surgeon in Columbus, O. The operation was one for colotomy, and was apparently successful, but after a time the patient died of septic poisoning. Upon reopening the wound it was found a pad of absorbent gauze had been left accidentally in the abdomen, which was found to be the centre of a suppurative uids in the peritoneal cavity. The surgeon placed the blame upon the nurse, who assured him at the time that everything had been removed. But this will hardly satisfy the court. The surgeon is in command, and is, of course, responsible for the work of his assistants. If the assistants are careless and incompetent so much the more caution and care is required on his part to be sure of success. There is an abundance of training schools, but not always an abundance of trained nurses, and the school which permits a pupil to go out with its diploma who has not been thoroughly trained in all the details of the profession cannot escape the just censure of the public.

From the standpoint of the physician, the Ladies Home Journal of Philadelphia, is the cleanest lay journal published, as it excludes from its columns, all patent medicine and other obnoxious advertisements. Its editor, Mr. Bok, has recently written an able and earnest article in respect to the payment of physicians' bills, and our advice to our readers is to obtain a copy of this journal, which has shown itself to be our friend, in the noble stand it has taken in many respects.

THE DEATH OF WASHINGTON.

The fourteen of December makes the one hundredth anniversary of the passing from mortal to immortal life of the Father of our country, at the age of sixty-eight years. As medical men a comparison of the practice of the leading physicians of that day, the closing of the nineteenth century, and the commencement of the twentieth will serve as a matter for reflection. Comment will hardly be necessary.

Notwithstanding the exposure of his early years and the burdens and responsibilities of the eight years of his administration, Washington had shown no signs of the infirmities of age. On the 12th of December, 1799, he went about his farms on horseback from 10 o'clock in the morning until 3 o'clock in the afternoon. During this period he was exposed to a bitter storm of rain and hail. The next day he complained of a sore throat, but so far from feeling anything like serious illness, he was kept from riding out as usual only by a heavy snowstorm. During the night his sickness arrested his attention. Between 2 and 3 o'clock on Saturday morning, December 14, he awakened Mrs. Washington. He then had great difficulty in breathing and speaking. Household remedies were applied and the bleeder sent for and fourteen ounces of blood taken. The family physician did not arrive till about 11 o'clock. Two consulting physicians were sent for and the bleeding was renewed. "But," the record of the day said, "in spite of all that medical skill could do, the disease made rapid progress, and the end came between 11 and 12 o'clock at night, after only about forty-eight hours' duration." From the description given it may be supposed the case was only one of acute laryngitis, which at that time had not been distinguished by the profession from other diseases of the throat. This, it will be remembered, was one hundred years ago, and the treatment adopted was the popular one of the day.

The Supreme Court of Ohio according to the Cleveland Journal of Medicine "declares that the practice of Osteopathy is not to be construed under the Ohio Statutes as coming under the provisions regulating the practice of medicine."

We think the decision is sound, the practice is simply massage and its operators should not be classed as physicians or surgeons. The name is a cloak to cover another form of quackery, and is difficult to reach legally, because of those "dear people" who are so exercised in respect to "personal liberty." It will have its day like all other fads, and humbug lots of people. The public like some individuals will only learn by experience.

The use of serum for diagnostic purposes in tuberculosis, upon the same plan as with animals, comes to us from Chicago.

The treatment is said to show results in the earliest stage.

There seems to be no reason why the serum treatment should not prove as useful with human beings as with cattle.

IS THIS THE BEST WAY TO AMERICANIZE OUR NEW TERRITORIES?

J. P. Austin, Chief of the Bureau of Statistics at Washington, has given out the following statement of export of American malt and spirituous liquors to the Philippine Islands for the last three fiscal years, ending June 30:

MALT LIQUORS.

	Dozens.	Value.
1897	400	\$663
1898	200	337
1899.....	50,800	71,635

SPIRITUOUS LIQUORS.

	Proof Gallons.	Value.
1897	—	—
1898	—	—
1899	17,112	\$34,571

The exports of 1899 represent the quantity sent since the occupation of Manila by our troops.

The president has made during his entire administration no better appointment than that of surgeon, now Gov. Wood as military governor of Cuba. It is no secret that the duties of Governor Wood will be almost wholly of a civil character and that he would have been appointed "Civil Governor" had it not been for the objections of the Cubans to the creation of such an office. Gov. Wood's administration of the province of Santiago has combined the scientific knowledge of the physician with the executive ability of the military leader and the statesman. Probably there is no American so popular and so largely trusted by the Cubans themselves as their new governor.

The daily papers of Boston, under large headlines which he who runs may read, advertise "Absent Treatment" with "Ninety-seven per cent. of cases successful," using an editorial from the Medical Brief in support of its methods. It is not necessary to say that the whole scheme is most quackishly put together and displayed, with a view to catching the unwary, and from the list of victims we should judge it had caught a goodly number.

People like to be humbugged and there is plenty of opportunity for them to be satisfied.

New York is just now being treated by a magician, who claims to cure deafness by some wonderful power which savors of this "absent treatment."

We have not heard of any one around here who was foolish enough to accept the offer of St. Luke's Hospital of Niles, Michigan, to become a member of its Medical Board. The proposition was too transparent to deceive even the unwary.

As a scheme of money-getting it was unprecedented, and worked well for its promoters nearer home. There is lots of humbuggery without going away from home for it. The Cleveland Journal of Medicine is entitled to our thanks for an elaborate exposition of the commercialism of this concern.

The fourth annual dinner of the alumni of the Ward's Island and Metropolitan Hospitals was specially enjoyable. About forty of the members were present, all in active practice and occupying high positions in the profession. The address of the retiring president, Prof. Charles McDowell, M. D., was full of ripe thought and valuable suggestions. Under the leadership of Dr. Arthur L. Root, the eloquent and witty toastmaster, old-time reminiscences from different members with incidents and thoughts drawn from the ever busy world of professional life, enlivened the company till the small hours in the morning. It was stated as an interesting fact that of the one hundred and fifty alumni of the medical staff of the hospital every one had been more than ordinarily successful in practice. Many of them ranking high as specialists, teachers and authors, and all of them important factors in that stirring, broad stream of scientific, practical, progressive medicine which is encircling the world. Trained in the school of liberal thought they have utilized truth, coming from every source, and have upheld the dignity of the physician in the broadest, truest sense of the word.

BIBLIOGRAPHICAL.

The International Text-Book of Surgery. By American and British authors. Edited by J. Collins Warren, M. D., LL.D., Professor of Surgery in Harvard Medical School; Surgeon to the Massachusetts General Hospital, and A. Pearce Gould, M. S., F. R. C. S., Surgeon to Middlesex Hospital; Lecturer on Practical Surgery and Teacher of Operative Surgery, Middlesex Hospital Medical School; Member of the Court of Examiners of the Royal College of Surgeons, England. Volume I. General and Operative Surgery. With 458 illustrations in the text, and nine full-page plates in colors. Philadelphia: W. B. Saunders, 1899; pp. 947; octavo. \$5. Vol. II. will be issued January 1, 1900.

One would naturally think that there were sufficient text-books of surgery already, and so there are, of the kind that follow the rut and the antiquated methods. Modern surgery, while in the transition stage, is advancing so rapidly that it becomes necessary, in order to keep abreast of the times, to issue new works and to revise old ones with great frequency. In some cases it would be better to write a new book than attempt to revise even some of the newer ones.

This book is certainly untrammelled by traditions, and the results of modern progress are treated with proper discrimination. The text embodies a clear but succinct statement of our present knowledge of surgical pathology, symptomatology and diagnosis, and such a detailed account of treatment as to form a reliable work. We have a text-book multum in parvo.

It has been realized that it is practically impossible for one man to write authoritatively upon so vast a range of subjects as necessarily are embraced in such a work, hence the editors have called to their aid men of experience in the various departments; in other

words, specialists in the particular branches, so that we have a text-book multum in pravo.

This volume is devoted chiefly to General Surgery, and Volume II., to be issued January 1, 1900, will be devoted to the various branches of Special Surgery.

The work opens with Bacteriology, by Professor Ernst, of Harvard, and the chapters that follow are mostly by different authors and consist of the most classical essays than can be produced, in concise form for study.

The illustrations in the text are superbly done, the plates are splendid works of art, and the printing is in Mr. Saunders' best style. There can be no doubt that this will be a most popular text-book with students and a handy guide to the practitioner.

The Dispensary of the United States of America. By Dr. George B. Wood and Dr. Franklin Bache. Eighteenth edition. Thoroughly revised and rewritten—with illustrations. By H. C. Wood, M. D., LL.D., Professor of Materia Medica and Therapeutics, and of Diseases of the Nervous System in the University of Pennsylvania; President of the Convention of 1890 for the Revision of the Pharmacopoeia of the United States; Member of the National Academy of Science; Joseph P. Remington, Ph. M., F. C. S., Professor of Theory and Practice of Pharmacy in the Philadelphia College of Pharmacy; First Vice-Chairman of the Committee of Revision and Publication of the Pharmacopoeia of the United States of America, and Samuel P. Sadtler, Ph. D., F. C. S., Professor of Chemistry in the Philadelphia College of Pharmacy. Philadelphia: J. B. Lippincott Company, 1899; pp. 2,000; large octavo.

Five years is a long time, in this age of progress, to wait for a revision of so important a work as this, especially when we take into account the extraordinary discoveries which have been made, particularly in the field of synthetic remedies, and nearly 200 articles have been written for this department of the book alone.

The text of the work has everywhere been gone over, carefully revised and condensed.

Professor Henry Kraemer, of the Philadelphia College of Pharmacy, has thoroughly revised the botany, and Professor Rusby his superb article on cinchona. The editors are to be congratulated upon the quality of their work, and upon their steadfastness in making such a volume possible.

To Professor H. C. Wood the profession owes a debt of gratitude for his classical articles in materia medica and therapeutics. His essays are not only voluminous and exhaustive of his subjects, but they are always practical and to the point. No physician or pharmacist can afford to be without a copy of this standard work.

Saunders' Question Compends. Essentials of Medical Chemistry, Organic and Inorganic, Containing Also Questions of Medical Physics, Chemical Philosophy, Analytical Processes, Toxicology, etc. Prepared especially for students of medicine. By Lawrence Wolff, M. D., Demonstrator of

Chemistry, Jefferson Medical College; Physician to the German Hospital, Philadelphia, etc. Fifth edition, thoroughly revised by Smith Ely Jelliffe, M. D., Ph. D., Professor of Pharmacognosy, College of Pharmacy, New York, etc.

Essentials of Diseases of the Skin, Including the Syphilodermata. Arranged in the form of questions and answers. Prepared especially for students of medicine. By Henry W. Stelwagon, M. D., Ph. D., Clinical Professor of Dermatology in the Jefferson Medical College; Physician to the Department for Skin Diseases, Howard Hospital; Dermatologist to the Philadelphia Hospital, etc. Fourth edition, thoroughly revised. Illustrated. Philadelphia: W. B. Saunders, 1899. Price \$1.

Mr. Saunders says he has sold over 175,000 of these Question-Compends, and this enormous sale is certainly indisputable evidence of their value.

The books under notice are in their fourth and fifth editions respectively, and in each case have been brought down to date. There can be no doubt that the "question and answer" compend is unrivaled as an aid to the medical student, and they have come to stay. Prof. Stelwagon's book is illustrated, so that the student may have the special diseases before him as he studies, an important point in respect to skin diseases especially.

"The Modern Treatment of Wounds," by John E. Summers, Jr., M. D., Surgeon-in-Chief to the Clarkson Memorial Hospital; Attending Surgeon Douglas County Hospital. Formerly Professor of the Principles and Practice of Surgery and Clinical Surgery, Omaha Medical College; Ex-President of the Western Surgical and Gynecological Association, the Nebraska State Medical Society, and the Omaha Medical Society. Medical Publishing Co., Publishers, Omaha, 1899. (Price, \$1.50). pp. 149. Octavo.

This is a practical and convenient little book for the general practitioner, as it tells him just how to treat cases he is constantly coming in contact with. The author writes from experience, and is positive that his methods are the best, as they seem to be. The text is concise and clear with no padding. Illustrative cases of an impressive character are given, for the purpose of memorizing.

Asepsis and antisepsis are forcibly emphasized in all cases. The book is worthy a place in any library.

Young's self-teaching chessboards.—For the student who desires to enter the broader channels of chess the best books are by Franklin K. Young.—American Chess Magazine.

Published by Little, Brown & Company, 254 Washington street, Boston, Mass.

The Christmas number of The Saturday Evening Post marks a new departure in periodical literature—the first successful attempt to give for five cents, stories, articles and pictures by the same writers and artists who make the high-cost magazines.

THE COMING AGE FOR DECEMBER.

The December issue of the Coming Age is the most brilliant number of this vigorous young review which has yet appeared. Among its strong original essays we mention as features of special power and interest: "The Social Situation in Canada," by the Rev. Charles Aubrey Eaton, of Toronto; "The Republic of Man," by Prof. Nathaniel Schmidt, of Cornell University, and "Utopia," by Prof. A. E. Dolbear, of Tufts College.

A very popular feature of this number is an elaborately illustrated paper by the editor, on "The Life and Work of F. Edwin Elwell, Sculptor."

This periodical illustrates well what may be expected of the coming age in literature, and is worthy of the attention of those who would keep abreast of the times.

Two books from the energetic publishers Boericke & Tafel are before us and in excellent form. First, "Diseases of Children," by Raue, is attractive especially for its straightforward way of expressing the essentials of diagnosis and treatment. The author's careful and conscientious work coupled with extensive bedside experience compels confidence in the teachings of his book. The other book, "The Twelve Tissue Remedies," by Boericke & Dewey, presents an earnest effort to propagate the interesting theories of Schusler, which have arrested the attention of many sincere physicians. If the results, both favorable and unfavorable, are carefully considered we may find that this peculiar system has more merits than the majority of physicians are willing to admit. Certainly the two medical men who have prepared this book have done much to encourage inquiry.

CORRESPONDENCE.

THE LESSON OF THE VICE-PRESIDENT'S DEATH.

The lesson of the life of the late Mr. Hobart would seem to be two-fold, showing the advantage of strict probity, energy and enterprise, and the disadvantage of submitting to too many course-dinners and taking in everything, from soup to nuts. Mr. Hobart was one of a large number of splendid and useful men who have died prematurely from high-living; over-eating and under-exercising produced the disease which caused their illness. Their sicknesses, treatment and deaths, might well give us another and most valuable lesson, viz.: that potent drugs and forced-feeding tend to prevent the recovery of all critically sick persons.

Garfield did not die from the effects of Guiteau's bullet; the autopsy showed that the bullet was safely encysted and was not the cause of death. Garfield died of fatty degeneration, ptomaine poisoning from forced-feeding and drugs. He was actually fed for pus, the product of unassimilated food-substances, which was drained away in quarts from day to day. He was constantly fed day after day until at times, when the stomach revolted at the outrage, he was made the victim of rectal feeding. In this way he was kept in a

feverish state, a state of painful sickness, demanding opiates and other potent drugs, and this combination finally killed him.

The same sort of treatment hastened Grant's death, though his may have been a necessarily fatal illness—cancer, from his inveterate tobacco-habit. Mrs. Grant stated that during his sickness he was made to take much more food every day than was his custom in health, a criticism which should suffice to satisfy the mind of the merest tyro in dietetics that at least this part of the treatment was shockingly bad. Nevertheless, this is the treatment still accorded, as a rule, to such patients; it was the treatment prescribed in the case of Mr. Hobart.

Here follow the daily bulletins of the Vice-President's progress to the grave:

Nov. 7th. "Vice-President Hobart was still alive this morning, but growing weaker. He did not get as much sleep as was hoped. His restlessness and lack of sleep during the critical hours of the night offset the good effect of the day yesterday, which was the best in a week." [On the previous day it was boasted that he had taken 'more nourishment than usual.'] Later in the forenoon Mr. Hobart was unusually bright and cheerful; he sat up for some time, and took considerable nourishment."

The evening paper reported that the patient had eaten "some soft boiled eggs and oysters during the day."

Nov. 9th. "Mr. Hobart took a large amount of nourishment yesterday in the shape of beef broths, milk punches (sic!) and other liquid nourishment, as well as a light lunch."

Evening report: "He took some solid food, and was in good spirits."

Nov. 10th. "The Vice-President took plenty of nourishment to-day, including chicken broth and beef tea," [practically identical with urine.] "He took more nourishment than at any time since his bad attack of nearly two weeks ago."

Nov. 11th. "Mr. Hobart sat in a chair this afternoon, and was able to eat a hearty meal of raw oysters, steak and tea."

Nov. 12th. "He has taken solid food with relish to-day; he took milk with his meals, and between meals was given milk punches. This is a marked change from his condition ten days ago. At that time his stomach had refused food of all kinds, and for several days he lived on grapes and the juice of grape fruit; but it soon appeared that his stomach was so congested that he could not even take these." Then, it is well to note, he began to mend, continuing to improve until forced-feeding was resumed.

Nov. 13th. "To-day he was able to partake of all of his meals at the usual time."

Nov. 14th. "Mr. Hobart is now taking three meals a day, and his friends are hopeful that he will soon be able to be about the house again."

Nov. 15th. Vice-President Hobart had another good night, and was able to eat breakfast, and was cheerful. Ate solid food for breakfast."

Nov. 17th. "Slight change for the worse last night—

feeling better this morning, though not as well as he had been for the three or four previous days. Dr. Newton is in constant attendance. Mr. Hobart ate solid food this morning."

Nov. 18th. Did not pass a restful night. The physician had to administer medicine during the night. Growing weaker.

Nov. 19th. At 9 o'clock he took solid food; but less than usual, indicating that his stomach trouble has returned. Gradually growing weaker.

Nov. 21. Dead.

Is it probable that a radically different treatment, embracing therapeutic fasting in some degree, at times, if still some error in diet provoked such need; skillful hydrotherapy; massage administered by an expert in this most potent natural remedy; the strict avoidance of drugs (which under this natural, or physiological, treatment would not even have seemed indicated)—is it probable, we would ask, that this kind of treatment would have restored this patient to health? In view of the vitality he exhibited in staggering through these several weeks of mismanagement, I should say that there is a strong probability that he would have recovered under such favorable treatment.

The disease for which Mr. Hobart was treated, myocarditis, required local cooling by means of the cold compress, changed as often as necessary—a pad about six inches square of coarse linen, four to six thicknesses, wrung tightly from ice-water, pressed over the region of the heart and allowed to get well heated before changing. This gentle cooling of the heart-muscle is as simple and practical as the cooling of any other point of congestion, the chest, for example, in pneumonia; the abdomen, in peritonitis, etc. While the daily bulletins described the diet of the distinguished patient, and something of the drugs employed, they gave no indication of the employment of any physiological measures, as hydrotherapy, massage, etc. Certainly the diet as described was, on his "good days," excessive and badly selected, and well calculated to bring on such attacks as that which produced the finish, "angina pectoris," commonly regarded as an affection of the heart, although the name does not imply this, but really, in nine cases out of every ten, stomach-cramp. The stomach is contracted into a solid ball, so to say, causing the most excruciating pain, an agonizing torture, but often speedily relieved in one minute of time by means of the cold compress to the spine directly back of the stomach, relieving the congestion of the "roots" of the nerves whose branches extend to the stomach, and unlocking, so to say, the grip upon this organ that is causing the abnormal muscular spasm or contraction.

CHARLES E. PAGE, M. D.

154 Tremont St., Boston, Nov. 25, 1899.

THE VALUE OF CLIMATE ON PHYSICIANS.

Probably no one more fully appreciates the value of pure air and an even temperature with change and rest, than the overworked physician.

It is not an easy matter, however, to break away from accustomed routine and give up practice. Oppor-

tunities now and then arise, it is true, where the needed change of climate can be had without the sacrifice of time. Such an opportunity has come to our knowledge, where an eminent practitioner with a wide circle of friends among physicians, can make for himself a permanent or temporary home in Southern California under the most attractive circumstances. In the pleasantest and most central part of the residence portion of the city of San Diego, which stands on the border of a beautiful bay overlooking the ocean. A well-known literary man is building and improving the grounds round a cluster of dwellings, where already is brought together a pleasant society. As San Diego is a health and pleasure resort of wide and favorable repute, it is here that a resident physician whose friends would deem it a privilege to send him patients, would prove a valuable acquisition to the locality. Particulars may be obtained from the office of the Medical Times.*

EARLY EXPERIMENTS IN SERO-THERAPY.

The records of lost opportunities serve as warnings and incentives to those who aim to be foreshorteners among men. They impress the great value of building upon the strong foundations of dogged work while vividly picturing the tottering and fallen columns of the dreamy theorizing of indolent genius. The failures of ancient physicians to establish truths which they saw darkly cannot be called lost opportunities; remembering how fearfully hampered they were by the crude ideas and poverty of material incident to their times we must accord a just share of the honor which this end of the 19th century claims for itself. Considering the brilliant lights shed upon our times by the accumulation of ages of science and art surely we cannot boast of proportionably greater wisdom than our fathers. For even to-day a large portion of the medical world stand gazing at the sun until they are blinded by the very intensity of the glare so that they cannot follow where its kindly light would lead. Jenner's great discovery has blazed upon us for a century and yet we refuse its guiding principle and have made but little, if any effort to refine and intensify its powers by removing the crude disease producing elements—which have so often brought a curse with its blessing.

Inspired by the labors of the early isopaths and the then recent inoculations of the lower animals with tubercle, I had for a long time determined to test the possibility of finding antagonisms to various maladies in identical diseased conditions. During the winter of 1875 while on duty as consulting physician to our hospital on Ward's Island, with the able assistance of Doctor Charles L. Nichols, now of Worcester, Mass., who was then on the hospital staff, I began my first series of experiments which were followed in succeeding years by more or less fruitless attempts to carry infecting material through the lower animals and after minimizing its malignancy, hoping to return to man a curative serum.

Twenty-five years ago it was impossible to make such experiments public without incurring violent hos-

tility from the press and people, so they were necessarily hidden behind closed doors.

After years of groping along these lines I had only two cases which gave any encouragement—but as elements of doubt were present in both, I gave up the contest many years ago as hopeless with the crude ideas which directed me.

To-day, notwithstanding the brilliant results of diphtheritic antitoxin which have so grandly sustained the law of identity, I believe the future will turn earnestly to similarities in taking antitoxins led by the century of honor which belongs to vaccination for variola. Investigators will seek and find similitudes to man's maladies even down to the lowest animal and vegetable life. It will be a glorious day when earnest laborers in this field discover diseased conditions occurring in the animal and vegetable kingdoms which cannot transmit disease to man, while bearing healing to his body.

JAMES ROBIE WOOD, M. D., LL. D.

New York, Dec. 1899.

THE ÆTIOLOGY OF CHARITY.

BY DR. A. L. BENEDICT.

Probably if an ancient could visit the world at this time he would first of all be surprised at the evidences of material progress and, next, at the change which has taken place in the attitude of the well-to-do toward the poor. All ancient writings, sacred and profane, as well as the original meaning of the word charity, indicate a more graceful spirit and a more tolerant attitude toward the dependent class. Otherwise, except for outward customs, social problems are about the same to-day as they were in the civilized world two thousand years ago, the conditions during the middle ages being distinctly retrograde.

Those who have much to do with charity at the present, are almost unanimous in regarding poverty as a disease, theoretically preventable and due to vicious tendencies. Amateur philanthropists divide the poor into worthy and unworthy. With increasing experience, the former class dwindles rapidly till it includes only the victims of malignant and repeated misfortunes—unless, indeed, we speak of the great majority of the self-supporting and independent members of society as suffering a worthy poverty. Perhaps the sting of deprivation is felt most keenly by those who have never seen the poormaster, who have never accepted without pay, anything more than the hospitality of a friend or the passing courtesy of an equal.

Why, if the worthy poor scarcely exist, at least in such form that they can be benefitted by charity does the philanthropic effort continue? Professional philanthropists can hardly give a satisfactory answer. Most of them are pessimistic, they make little claim of being able to relieve the ultimate causes of dependency, they soon outgrow the self-gratification of giving aid—unless in some instances in which benevolence is the mask of organization and politics, as in not a few women's societies—they lose the enthusiasm of the novice. In short, the philanthropist—excepting al-

ways the frauds—is a hero doing his duty for the reason that it is duty, not because of the stimulation of success, patiently wasting his time and effort on the ninety-five that the five who do need him may not suffer.

Most medical men are called upon to render a large proportion of their services as a matter of charity, many have also the opportunity to study the dependent classes in a more formal manner as the representatives of municipal or other organized philanthropy. The verdict of most who have had this special experience is, we believe in accord with our own, namely, that the principal cause of charity-seeking is shiftlessness, with or without alcoholism. Alcoholism itself is not the overwhelming cause of poverty which extreme temperance (the expression is no longer a Hibernicism) advocates would have us believe. Many chronic paupers are abstainers or only moderately addicted to drink, and drunkenness is very common among the self-supporting poor. Added to shiftlessness, is an ignorance of the value of money and of methods of economy, which is especially aggravating to the worker for the alleviation of the dependent class, but for which the latter can scarcely be blamed. A dollar is a large sum, fifty dollars a fortune, to the family which is enured to want; what wonder then, if it is squandered for the theatre, or a plush album or for photographs, instead of looking ahead to the possibilities of the future. We must always remember that the proletariat is like a child in knowledge of money and in lack of appreciation of the future. In our opinion, the most hopeful charity is that which teaches poor, ignorant mothers common decency and cleanliness in the preparation of food and which instructs dirty half-grown girls how to sew and perform other necessary household tasks. The struggling, thrifty middle class forgets, or never has known, that these common arts of housewifery are less familiar to the very poor than to the daughters of luxury. Medical men often remark that sickness is, relatively, enormously prevalent among the poor. This is partly due to necessary hardship, but partly to ignorance and carelessness in preparing food and repairing garments or in seeing that children are properly clad. Education is quite as practical an aid as alms-giving, in many instances. Another factor of considerable importance in the production of charity-seeking, is dishonesty. We do not mean the implicit dishonesty of laziness, but an actual desire to "do everybody," which is manifested by begging simply because of lack of courage to steal. In comparison with this subclass of dependents, the burglar and sneak-thief are respectable and hard-working professional men.

A committee of the New York City Charity Organization Society has compiled statistics from a careful study of 500 charity-seeking families which are of great importance not so much because they announce a new discovery but because the impression of almost every worker in the field of charity receives substantial support. Statistics are always more tangible than impressions though not necessarily any more reliable. The 500 families included 832 applicants for relief, 782 of whom were adults. Most of the applicants were in the

fourth decade of life—when the physical forces are at their maximum. The absence of old age and infancy as causes of charity-seeking must be surprising to those who have retained the old fashioned kindly sentiment toward the poor. Not even indirectly were children the cause of poverty, since more than a quarter of the families had no children and the average number was only 2.05 per family, much less than the average of the self-supporting but needy family.

The following table speaks for itself:

Cause of application as given by family.	As proven by investigation.
Loss of employment	313 115
Sickness or accident	226 102
Physical defect and old age ...	45 27
Insufficient earnings	52 —
Death of wage-earner	40 18
Desertion	40 15
Intemperance	25 87
Uncertain	103 —
Shiftlessness	50
"No need"	86

It will be noted that this table supports our statements quite accurately except in regard to the prevalence of shiftlessness. Loss of employment looks like an innocent cause of charity-seeking as does sickness and accident. But we are inclined to think that a further analysis of these cases will confirm our own experience that industrious and capable workmen are rarely out of work long enough to require outside aid and that sickness and accident, unless after a long time, or a series of misfortunes, are not an adequate cause of charity-seeking in the case of honest and hardworking laborers and artisans.

A. L. B.

CONGRESS ON "TUBERCULOSIS AND ITS MODERN TREATMENT."

It has been decided by the management of the Medico-Legal Society, to devote an extraordinary session to "Studies on Tuberculosis, Its Management and Modern Treatment," on the third Wednesday of February, 1900, at a regular meeting in this city; to open a full investigation and discussion of the whole subject; and to invite the leading American scientists and specialists to contribute papers, and to unite in the discussion of this subject and the most advanced and modern treatment of tuberculosis.

The following questions have been decided upon to be submitted for this discussion:

1. Special hospitals and sanitariums, their construction and operation.
2. What are the most successful methods of treatment?
3. Individualism of certain forms of tuberculosis, its importance and necessity.
4. Is change of climate a necessity for successful treatment?
5. Should the use of anti-toxines be condemned in tuberculosis, from a purely scientific point of view?

It is proposed to announce in the programme the

name of one or more experts who will submit a paper upon each of these questions.

As a large number of the specialists are willing to take part after the opening meeting, after the dinner at the opening session at 7 p. m. on the 3d Wednesday to continue the Congress the next day so as to make the discussion full and complete. It is proposed not to limit the titles of papers to these stated questions in case an author desires to submit his views upon any other subject that he prefers.

The great interest in this subject on both sides of the Atlantic, which also has been given prominence in the Paris Congress of 1900, will make the movement of great interest, not only to the profession, but also the general public.

Members and others who are willing to take part are requested to write to either of the committee upon which of these questions they will submit their views, prior to the first of January next, if possible, so that the same may be printed and submitted to the others who are to take part, in advance of the meeting as is the custom in foreign countries.

The following committee has been named by the Medico-Legal Society, to act as a Committee of Arrangements for this Congress, with full powers and the profession is desired to co-operate by contributing papers and taking part in the discussion, and to advise either members of the committee as early as possible.

THOMAS BASSETT KEYES, M. D., 98 State St., Chicago, Ill.

J. MOUNT BLEYER, M. D., F. R. A. M. S. LL. D., 460 Lexington Ave., N. Y. City.

CLARK BELL, ESQ., 39 Broadway, N. Y. City.

TRANSLATIONS, GLEANINGS, ETC.

RETROSPECTIVE THERAPEUTICS.

By Alfred K. Hills, M.D. Fellow of the Academy of Medicine of New York, &c.

Painless Injections of Mercurial Salts.

E. Bazin, (Sem. Med., March, 1899; Merck's Arch., June, 1899), says that Guaiacol will render the injections of mercurial salts painless. The following formula is employed:

Sterilized olive oil.....20 drachms.
Binioidide of mercury..... 6 grains.
Synthetic guaiacol.....36 grains.

The painfulness of intramuscular or subcutaneous injections of mercurial salts has heretofore militated against this valuable means of treating syphilis. The mercurial salts cannot be used with cocaine because of the precipitation of the latter substance which renders it useless as an anesthetic. Even though the latter objection were overcome, the continuous employment of cocaine would have serious objections which cannot apply to guaiacol.

Treatment of Ringworm by Suction.

A most ingenious little appliance for the treatment of obstinate cases of ringworm was displayed by Dr.

Phineas Abraham in a clinical demonstration at the London Polyclinic recently. It was born of the recognition of the fact that in chronic cases of great persistence, such as we have all had painful experience of, the principal stronghold of the tinea is not in the skin of the scalp, but deep in the follicles of the hair, into which, of course, ordinary ointments rubbed or solutions painted upon the surface of the skin could hardly by any means be got to penetrate. Its principle was suggested to Dr. Abraham by the process by which blocks for wood paving are saturated with creosote in vacuo. This process is imitated in a lesser degree upon the scalp by a small bell-jar with a rubber rim, which, after the scalp has been thoroughly cleansed with alcohol and ether, is pressed upon the area desired to be treated and the air within rapidly exhausted by a small syringe pump. When the tissues have been well sucked up into the cavity of the cup a cock in the bottom of a small tube of creosote is opened and the drug, in the form of vapor, pours into the vacuolized tissues. Dr. Abraham has found it of great practical value in sterilizing not merely the surface, but even the depths of the hair follicles, and by this means alone has succeeded in curing many obstinate cases which had defied all other methods of treatment.

Blue Glass for Diagnosing Eruptions.

It is a fact not as well known as it should be, says the editor of "Medical Council," that by means of lenses of cobalt-blue glasses, held very close to the eyes, skin eruptions may be discerned before they are recognizable by the naked eye. This is specially important in some diseases, notably syphilis, where one may await the appearance of the rash before beginning specific treatment, for by noticing it before it can be seen by the naked eye, it is possible, by earlier treatment, to avoid the marked eruption that would possibly otherwise follow and either expose the patient if he went out or confine him indoors until it had disappeared. It is necessary to keep the glass as close to the eye as possible, so as to shut out all extraneous light rays. The efficiency of the blue glass depends upon the absorption of red rays, which are confusing and obscure the other rays by which the rash is readily distinguished.

Iodine Treatment of Chronic Eczema of the Hands.

Eczema on the hands and fingers chiefly affects washerwomen, and not unfrequently women of the better classes. Edlefsen (Therap. Monatshefte, Feb., 1898) orders a paint consisting of pure iodine 0.1, iodide of potassium 0.25, glycerine 12.00; the paint is applied every evening, and the hands are enveloped in lint. The irritation is always relieved, and in fourteen days the disease is generally cured. In the more obstinate cases boracic ointment was applied in the morning, and the iodine paint in the evening.

Xeroform in Military Surgery.

Emilio P. Noguera (Rev. De Med. Y Ciruj. Practicas, April 25, 1899; Medicine), states that during the Cuban war he treated a large number of wounds with this substance. Bullet wounds were cleansed by irrigation of 1:1000 sublimate solution, and the xeroform

was dusted over the points of entrance and exit. Sword wounds were irrigated, sutured, and the incision covered by a layer of xeroform. In each case there was union by the first intention. In contused wounds with loss of substance, in which approximation of the margins was impossible, healing under the xeroform treatment was brought about without the slightest irregularity. The soft, moist, and spongy granulations sometimes noticed with iodoform were never noted where xeroform was used. This drug performed a valuable service where a large number of wounded had collected, by rendering the wounds septic, thus admitting of some delay in treatment. From his observations he concludes that this substance is a powerful antiseptic of great value in military surgery; it absorbs secretions, sterilizes them, and prevents secondary infections. As a dressing he regards the substance as irreplaceable, as it maintains wounds aseptic for forty-eight hours and longer, and permits postponement of treatment without danger to the patient.

Constant Sponging in Reducing Temperature.

E. Crocker (in the National Hospital Record for September, 1899; Medicine), says that the full bath can be given but seldom, and the cold bath has its limitations, but sponging is always admissible and often of much more value than either. The temperature is readily reduced by this means. Infrequent sponging the writer thinks is worse than useless. He advises the use of water that gives no unpleasant shock to the patient; that is, water of an agreeable temperature. He says that it is the evaporation of the water which cools the skin. The face, neck, hands, arms, feet and legs, and so much of the body as can be easily reached, should be bathed, not forgetting to turn the patient over and bathe the double-heated back; then begin all over again, not touching the skin with a towel, but allowing it to dry. He says there is a wide difference between occasional sponging and sponging practically without intermission, never allowing the body to become dry and heated.

Guaiacol Carbonate and Creosotal in Respiratory Diseases.

Hoelscher (Tagebl. F. Denkongress Zur Bekaempfung der Tuberkulose, May 26, p. 7; Med. Rev.) maintains that guaiacol-carbonate and creosotal (creosote-carbonate) are of undoubted value in pulmonary phthisis. It is essential that during their administration a full diet especially rich in albuminoids should be taken, since after absorption they are excreted in the urine combined with sulphur. Now this is derived only from a considerable decomposition of albumins, and unless the diet is capable of replacing them, increased debility results. Fortunately, the remedies are not caustic like free creosote and guaiacol, and even increase the appetite and assimilation by preventing abnormal fermentation. The impregnation of the body with creosote produces conditions unfavorable to the development of the bacillus, and favors the elimination of the poisonous products of tissue metamorphosis, which are labile albumins, by withdrawing their sulphur and hastening their decomposition. The dark coloration of the urine is not a symptom of poisoning, and need not alarm the

patient during treatment with creosotal, creosote is eliminated by the lungs, as is proved by its odor in the breath. Besides increasing the appetite, even in cases with absolute anorexia, creosotal causes a rapid and often enormous increase in weight, a disappearance of the fever, night-sweats and weakness, and a diminution in the cough and expectoration, which finally disappear. The number of bacilli expectorated rapidly decreases. The physical signs of pronounced phthisis can be made to disappear in six months, though a longer course is often required. In early apical catarrh, with bacilli in the sputum, the physical signs completely disappear in two or three months.

Still more remarkable is the action of creosotal in acute pulmonary diseases, such as pneumonia or broncho-pneumonia. Pneumonia is cut short by the early administration of large doses, the typical crisis occurring within twenty-four hours, and its duration is noticeably lessened, even when the administration is delayed. The febrile condition is permanent if creosotal is continued, though the temperature rises again if it is left off before the abnormal physical signs have disappeared. The sequelae of acute diseases, especially tuberculosis, are avoided when they are treated with creosotal.

The writer thinks that the use of ordinary creosote is no longer justifiable, since creosotal, given in drop doses, is cheap enough to be generally employed.

Abortive Treatment Not a Myth.

"Dr. Edward H. M. Sell said that, looking back thirty years, the view was very interesting. About thirty years ago this very subject had been discussed in the Medical Society of the county of New York, and very nearly the same diversity of opinion had existed then. At that time the application of ice to the chest had been suggested, but the treatment had been very quickly abandoned. In those early days he had had the audacity at one meeting to speak of the 'abortive treatment of pneumonia,' and had been severely criticized, because of his belief in such a possibility. It would seem that this was just as much questioned at the present time. Dr. Sell then referred to a severe case in which, by the use of small doses of tincture of aconite and the application of the very old-fashioned poultice, he had caused a subsidence of all the symptoms within twenty-four hours."

The above is only one among a host of equally valuable therapeutic ideas which would long ago have become the common property of the whole profession, but for the division in its ranks, brought about, "in those early days," by bigotry on one side and extravagance on the other.

RETROSPECTIVE DIETETICS.

Home Modification of Cows' Milk for Infant Feeding.

Dr. Henry Dwight Chapin in the New York Medical Journal, November 4th, 1899, treats this subject exhaustively and clears up several points that have been in dispute for many years.

"The aim of the present paper," it is stated, "is to

procure a method that will be scientific enough for the average case and easy to apply in all cases."

After reviewing the condition of the milk trade in Greater New York the following directions for handling milk and obtaining creams of different strengths for diluting purposes are given:

"Milk should be aerated, strained and cooled to about 45 degrees F. if for shipment, otherwise to 60 degrees F. immediately after milking. Aerating removes the gases which impart the cow odor to milk, and cooling to 45 degrees F. prevents the development of lactic acid. The germs of lactic acid thrive at temperatures between 80 degrees F. and 100 degrees F., but are almost inactive at temperatures below 50 degrees F. Milk bottled under these conditions and kept below 45 degrees F. should keep in good condition for sixty hours after milking.

"For over thirty years there has been in use in the dairy industry what is known as the 'deep setting' process of creaming. This process consists in putting milk into tall narrow vessels and cooling to about 40 degrees F. After twelve to twenty-four hours practically all the fat of the milk will be found in the creamy layer, the skimmed milk often containing no more than a fifth of one per cent. fat. Milk bottled in the country and kept cool during the twenty-four to thirty-six hours before delivery is subjected to the conditions necessary for successful 'deep setting' creaming, and usually contains a layer of cream in the neck of a quart bottle between three and four inches deep, measuring from the top, or about six fluid ounces (Fig. 1.). The line separating cream from skimmed milk is distinct."

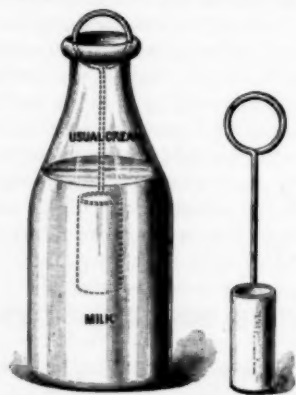


Fig. 1.—Quart bottle of milk with dipper in situ.

Fig. 2.—Dipper holding one ounce.

Tests showed that the cream was not uniform in composition, being about twice as rich in fat near the stopper of the bottle as near the skimmed milk, and that handling the bottles disturbed the cream very little.

Unless the creamy layer is distinct when the milk is delivered, it is probable that the milk was bottled in town. This retards the separation of cream and increases the chances of contamination.

"By mixing cream and skimmed milk as it were in situ in certain proportions, there is a certain relation between fat and proteids that may be used in feeding

the infant. In the home modification of milk by means of the bottled milk, the cream is readily and accurately separated from the under milk by means of a dipper measuring exactly one fluid ounce (Fig. 2.). Quart milk bottles all have substantially the same kind of neck, and the dipper has been made to easily fit any of these bottles after an inspection of a large number. The very top layer of cream is taken off with a teaspoon, and the dipper thus filled and the first ounce removed, otherwise the milk would spill over when the dipper is let down. The successive ounces of cream are then easily removed without jarring, siphoning, or other manipulation.

"While it is not easy to test the proteids of milk, we are taught on good authority that they nearly equal the fat in milks up to four and a half per cent. fat. The fat in the mixed milk of a herd of cows seldom falls below three per cent. or exceeds five and a half per cent. Probably four per cent. is a general average.

"In practice where it is desired to have fat three times the proteids, make a twelve per cent. fat cream by taking the first nine dipperfuls of cream and milk from a quart bottle on which the cream has risen, as shown in the illustration, and mix. Result nine fluid ounces cream—about twelve per cent. fat, four per cent. proteids, five per cent. sugar. What is not needed of the nine fluid ounces can be put back into the bottle.

"When it is desired to have fat two times the proteids, take the first sixteen dipperfuls of cream and milk out of a quart bottle and mix. Result sixteen fluid ounces cream, about eight per cent. fat, four per cent. proteids, five per cent. sugar. What is not needed of the sixteen fluid ounces can be put back in the bottle."

Formulas are given for preparing food on the percentage plan, by simply diluting these creams.

The quantity of sugar to be added equals in most cases one twentieth of the desired ounces of food.

"What is needed in a given case is a dilution of cows' milk that will agree with the baby we are trying to feed. Every physician can vary the strength of the milk by directing the number of ounces to be dipped out of the bottled milk, and thus tentatively reach the strength that is suitable for the infant's digestion. A heaping dipperful of granulated sugar weighs an ounce, and a dipperful and a half of milk sugar measures appreciably the same weight. After having attained the desired percentages, the next step is to get the cows' milk, as nearly as possible, in the same physical condition as woman's milk. As is well known, the proportion of casein coagulable by acids is greater in cows' milk than in woman's milk, and the clot in the former case is tough and tenacious in character. The best method of acting on the casein of cow's milk in the way of attenuating and modifying the clot is by properly diluting the milk with a decoction of the cereals. It is also believed that dextrinizing the gruel before thus using it will often prove a distinct gain by enhancing its attenuating powers and increasing the ease of assimilation.

"The curdling of milk by gastric juice or rennet must not be confused with the precipitation of casein by an acid. Rennet is a clotting enzyme which changes casein

into a semifibrous mass that has a strong tendency to contract and harden, especially on the outside. Lactic acid accelerates the action of rennet, and the rapidity with which the curds contract and harden depends largely upon the quantity of lactic acid present. Rennet will not coagulate casein in the absence of the salts of lime. Milk that has been dialyzed to remove the salt or milk that has been boiled or Pasteurized will not coagulate well with rennet. In Pasteurizing or boiling milk, the albumen is coagulated and seems to envelop the lime salts, as the scum of boiled milk is rich in lime. After the addition of limewater and a little salt to dialyzed, Pasteurized, or boiled milk, rennet acts with great ease. Limewater contains about ten grains $\text{Ca}(\text{OH})_2$ to the pint, so the beneficial results obtained by adding a small quantity of limewater to milk probably do not come so much from such a feeble effort at neutralizing the acidity of the milk as by allowing the rennet to act to better advantage. Plain gruels and milk, with rennet, form rather gelatinous curds. Upon dropping them into a solution of iodine and iodide of potassium they will at once be colored blue. After washing and breaking the curds, it will be seen that the blue color does not extend into the curd, and that there is no yellow coloration, showing that the proteids are not exposed. In a gruel of the same strength, if the starch is dextrinized and mixed with milk and rennet, a curd will be formed that falls apart upon slight agitation. Drop some of this curd into the solution of iodine and iodide of potassium and it will be colored yellow, showing a larger surface of proteids exposed. The reason dextrinized gruel has such an effect on the curd is, that, as the starch has largely been converted into soluble forms, the gruel is composed, in great extent, of the cell walls of the cereal from which it was made. This cellulose is very flocculent, and when dispersed through the curd tends to prevent contraction; and, as there is little adhesive material present, the curd breaks apart easily. This explains why the "flour ball" sometimes gives better results than a plain gruel, as the starch is more soluble than in plain gruels. It is thus an advantage to change the starch, which acts as a coating to the proteids in plain gruels, into dextrin, which is soluble, and thereby more freely expose the proteids to the action of the gastric juice. According to Schiff, dextrin provokes the secretion of pepsin, either when absorbed from the stomach or injected into the blood; hence this would be a theoretical point in favor of dextrinized gruels. Pancreatic trypsin is totally inhibited by .05 per cent. of lactic acid, and as there is little ptyalin and trypsin secreted by suckling animals, the presence of fermenting starch may completely derange digestion.

"The older methods of acting upon the starch of cereals by prolonged heating may be superseded by dextrinizing with diastase, which is rapid and simple." The following preparations of diastase are procurable: "Forbe's diastase, taka-diastase, Fairchild's pancreatic diastase, and an active glycerite of diastase known as Cereo, which is made for dextrinizing gruels."

Complete outfit with full directions can be had of

Cereo Co., Tappan, N. Y., whose advertisement appears in this issue.

OBITUARY.

William Briggs Garside, M.D., died in Brooklyn, December 1st, 1899, of apoplexy. Dr. Garside was a man of sterling integrity, and active in charity and educational work.

James Allen Carmichael, M.D., died December 26, 1899, of acute Bright's disease, *æt* 76. Prof. Carmichael was for many years a teacher of anatomy, and in that time he had no superior. Like Dr. Oliver Wendell Holmes, he possessed the ability of making a "dry study" full of interest.

THE NON-SURGICAL TREATMENT OF HEMORRHOIDS.

BY MILTON P. CREEL, M. D., MED. SUMMARY.

By Milton P. Creel, M. D. Med. Summary. For some time I have ceased giving greasy salves and have depended entirely upon *anusol* suppositories. These suppositories are composed of *anusoli*, zinc oxide, *balsam Peru*, oil *theobromae* and *ceratum*. These ingredients, I think, compose the best suppository and the most successful means of treating hemorrhoids at the disposal of the profession.

I direct my patient to insert one of these suppositories in the rectum every night before retiring, but in those cases where the condition is attended with a great deal of pain I have the suppositories used night and morning. In cases where the condition is very aggravated it is best that they be used every eight hours.

These patients should, if we would get speedy results, occupy the recumbent position. In this way we get results which are far more satisfactory. When there is protrusion of the hemorrhoids from the margin of the anus, we can get more favorable results by introducing a suppository not only in the rectum, but by squeezing one up between our fingers and smearing it all over the protruding hemorrhoidal tumors.

These suppositories give almost instant relief, and the piles usually disappear very rapidly, and when the patient will adhere to my instructions pertaining to diet, exercise and other matters, he generally makes a recovery speedily.

UROTROPIN IN POSTERIOR URETHRITIS.

BY GERALD DALTON, M.S.A. LOND., &C.

By Gerald Dalton, M.S.A., Lond., &c. Of the many new drugs which are from time to time brought before the profession, some of which, unfortunately, are of little use, urotropin, as a urinary antiseptic, appears to be of great utility. Nicolaier, Kelly, and Wilcox have all reported much benefit from its use in cystitis and as a uric acid solvent. It may therefore be of some interest to record the results of treatment by it of gleet caused by posterior urethral troubles.

In the five cases recounted, most decided and marked benefit must be referred to the urotropin alone; the local and other treatments having improved matters up to a certain point, and then apparently ceased, a state of things unfortunately only too common in the cure of

these troublesome complaints. In two other cases doubtful relief was obtained due, however, in both to the patient's neglect of treatment, and of abstinence of excess of alcohol. Whilst in several other cases, now under observation, a complete cure has not yet resulted, though in no case, up to the present, can I record a complete failure of the drug.—The Therapeutist.

FRENCH MEDICAL SOCIETIES. ACADEMY OF MEDICINE.

Hemoglobinuric Fever and its Treatment.

M. Moussios, of Macri, Asia Minor, has, in 10 years collected 60 observations of bilious hemoglobinuria. He admits that they proceeded from paludism. Quinine may provoke slight hemoglobinuria, but not a bilious hemoglobinuric fever, and it is very rare when quinine of French origin is employed. The perniciousness of the fever depends, not upon the nature of the hematozoa, which is the same in slight or grave fevers, but upon individual predisposition, especially upon a depression of the organism produced by other diseases than paludism or by paludism itself. In the bilious hemoglobinuric fever M. Moussios employs methylene blue by subcutaneous injections—0 gr. 50 to one gr. daily.

Leucokeratosis with Epithelioma of the Prepuce.—Prof. Le Dentu read a report of the above furnished by Tucher and Binaud of Bordeaux. It was the third case of the kind, the two others belonging to M. Perrin of Marseilles. The first patient, aged 44, had a pediculated epithelioma and a leucoplastic plaque implanted upon the balano-preputial surface and the glans. Extirpation of the two lesions was made, diagnosis confirmed histologically. Prof. Le D. thought that the epithelioma was developed at the expense of the leucoplastic plate, because he had seen a leucoplastic plaque upon the tongue transformed from a simply callous or horny condition, to a confirmed epithelioma. In another case there was temporary leukokeratosis of the glans. In another the callous condition was preceded and determined by balanitis. The patient eight years previous had leucoplastic epithelioma of the tongue, which was operated upon at the beginning and the disease had recurred.

Congenital Absence of the Two Kidneys.—M. Bayer reported an exceptional case. In medical literature there is only one other instance, of which this is as it were, a reproduction. In the foetus, which was born after a normal pregnancy, the two kidneys were found on autopsy to be completely deficient, as a consequence the ureters were wanting, also the renal arteries and urethra diminished in calibre. The suprarenal capsules were twice as large as usual at birth. The foetus was naturally non viable, but respiratory movement occurred.

Poisoning by Santonine.—M. O. Aransohn cited case of child of 2 1-2 years to whom 11 pastilles containing each 0.23 gr. of santonine were administered in 10 minutes, and afterward cucumber salad and a small glass of brandy were absorbed. At the end of an hour there

were symptoms of poisoning by santonine, loss of consciousness, oppression of respiration, clonic convulsions, dilation of pupils, depression of pulse, and polyuria with traces of santonine in urine, recovery in 2 hours. The rapidity and intensity of the symptoms of poisoning explained by the acetic acid of the salad, and the alcohol favored the dissolution and absorption of the santonine.

Case of Death from Tickling.—A young country girl of 18 years, met in the country two young men who subjected her to violent tickling. She was very sensitive to it and it caused intense laughter which suddenly terminated in death. M. Wacholz, who reported the sad case, discussed the cause of death. Was it shock or asphyxia? He concluded that it was the first of the two, and thus explained it: The laughter consisted physiologically of inspirations followed by short expirations were forced and to produce them, the muscles of the abdomen were contracted, and the intestines and diaphragm compressed. Prolonged pressure upon the diaphragm produced compression of the pneumogastric and phrenic nerves, and their irritation and paralysis caused death.

Operative Treatment of Dry Arthritis.—M. Akerman gave a description of 9 cases of dry arthritis, five of them of the hip, 4 of the knee, treated by the bloody method at the "Hospital des Seraphins Stockholm." In some cases, he was satisfied to excise portions of the capsule, and polypoid excrescences, in others to pare the cartilaginous or osseous borders. Was also forced to remove the head of the femur, the neck, great trochanter, etc. The method to be pursued, however, depends evidently on the locality of the osseous alterations and their development. The results were excellent. Pains all disappeared after the operation, patients, after recovery from the operation, resumed their usual occupations and walked without fatigue. This surgical treatment of dry arthritis, should, according to this author, be held to be the best in all cases in which conservative methods have failed, and when the general condition, age and invasion of polyarthritis, or other special reasons present contraindications.

"The Living Age" for 1900. During the fifty-six years of its existence this sterling weekly magazine has steadily maintained its high standard. It is a thoroughly satisfactory compilation of the most valuable literature of the day, and as such is unrivaled. As periodicals of all sorts continue to multiply this magazine continues to increase in value, and it has become a necessity to the American reader. By its aid alone he can, with an economy of time, labor and money otherwise impracticable, keep well abreast with the literary and scientific progress of the age and with the work of the ablest living writers. It is the most comprehensive of magazines, and its prospectus for 1900 is well worth the attention of all who are selecting their reading matter for the new year.

—It is said that no one has ever seen asthma in users of tobacco.

MISCELLANY.

—In colored patients the eruption of scarlet fever is a rich purple instead of scarlet.

—An English medical man has driven his motor-car 5,000 miles in a year, at a total running expense of \$130.

—All hypodermic injections may be rendered less painful and be more readily absorbed if the active substance is dissolved in saline solution instead of plain water.

—Judge Colt of the U. S. Supreme Court has decided that imported surgical instruments being "scientific instruments" within the meaning of the law are not dutiable.

—It was reported from Yokohama, Japan, on September 18, that Dr. Kitasato had discovered the bacillus of dysentery and that he had already performed some remarkable cures by inoculation.

—A Russian journal announces that a society has been organized in Moscow to erect and maintain an asylum for aged and incurably diseased women throughout the country who have had a medical training.

—The Administration building of the Loomis Sanitarium for Consumptives, near Liberty, was entirely destroyed by fire, October 14; loss, \$100,000. None of the inmates were injured. The burned building, which was of stone, was the gift of J. Pierpont Morgan, and will be rebuilt.

—Under the auspices of the University of Chicago has been established what is known as the Chicago Physiological School. It is intended as a home for boys and girls who are unable to take their places in the public schools or to maintain themselves in the average class by reason of illness or infirmity.

—It is not often that a man celebrates his silver wedding twice in his life, with a different wife each time, but the St. Petersburg Med. Woch. relates this of a Russian merchant who recently died at Belgorod. He is known to have traded at the yearly markets in the Ukraine for over a hundred years, and it is claimed that he was 140 when he died.

—The field for women as hospital physicians is steadily widening. Early in October the Hospital Board of Govan a district of Glasgow, appointed Miss Augusta Boyes, M. D., C.H. B., as resident physician to its Fever Hospital, at the same time raising the salary attached to the appointment. Last week the Edinburgh Victoria Hospital for Consumptives also appointed a lady, Dr. Anne Mercer Watson, as resident physician.

—The Second International Congress of Experimental and Therapeutic Hypnotism is to be held next year in Paris, August 12 to 15. The acting president will be Dr. Jules Voisin. A number of well-known authorities on the subject of hypnotism have expressed their willingness to be present and read papers. Those who contemplate attending the meeting are asked to communicate with Dr. Berillon, 17 Rue des Beaux Arts, Paris.

—Among the innumerable international congresses to be held in Paris in 1900, the most curious and quiet will be the congress of deaf mutes.

—Dr. Bibb (Texas Med. Jour.) says sponging the body with bi-chloride of mercury, 1 to 500 warm distilled water solution, every four hours, gives wonderful results in smallpox cases.

—Agnes Nacker is reported by the "Medical News" as the first woman doctor admitted to general practice in Germany. She resides in Berlin. It has taken the Prussian cabinet two years to decide her case.

—A cemetery for domestic pets has been established in Paris, on a small island in the Seine. A young man appears at the door in response to a telephone call, with a suitable casket for the defunct pet, and transports it to the cemetery.

—An "American Hercules" is now exhibiting in London as a champion strong man and rival to Sandow. He is said to be a graduate of Harvard Medical College, and to have been in actual practice two years. He claims to be a grandson of Sitting Bull, the renowned Sioux medicine chief.

—The so-called remedies of Count Mattei ("bottled electricity") have been denounced by the Prussian police. It appears that upon the death of that worthy, the trade was taken up by an apothecary in Geneva, and the authorities now intervene to make it publicly known that these preparations are worthless.

—Further experience, the Progress Medical says, is confirming the efficacy of Guilloz's method of treating gout by autoconduction of a long-continued high-frequency current combined with the electrolytic administration of lithium directly to the affected joints. Acute attacks are aborted and chronic gout attenuated.

—Beck describes a method of giving oxygen by nasal inhalation, which he claims has great advantages over the ordinary method of inhaling it by the mouth. A patient who underwent this treatment also remarked that inhalation in the recumbent position was much easier, and its invigorating effects much more quickly obtained.

—A scheme for the formal training of young women of refinement and education in the care of young children, has just been set on foot by the ladies of the sanitary association of Liverpool. The new nurses are to be taught the proper making and fitting of children's hygienic clothes, the sanitation of the nursery, the principles of feeding, and also the elements of the kindergarten system. A similar institution was organized at Norwood in London a couple of years ago, and has met with great success.

—A new danger is said to be found in Turkish tobacco. A report to the Marine Hospital Service says that tuberculosis is spreading rapidly in the Turkish tobacco factories in Constantinople. In order to preserve the peculiar odor of Turkish tobacco it must be exposed to air and light as little as possible; hence in the rooms where these workmen are employed there is very little ventilation and the air becomes filled with dust, which quickly develops a chronic bronchitis and ultimately tubercular infection.

ORIGINAL ARTICLES.

OBSERVATIONS ON SOME FORMS OF PARALYSIS.

BY GEORGE I. CUTLER, M.D., WEST SWANZEY, N. H.

AMONG the many diseases which the country doctor is called upon to treat in general practice, those of the nervous system are generally the most difficult to diagnose, study, and comprehend. We are tempted, from the want of a better knowledge of physiology, pathology, and neurology, to refer many of our cases of disorders of the brain, spinal cord, and nerves to the specialist rather than attempt to treat them ourselves with the expectation of success, or of giving satisfaction to the patient or the patient's friends.

Those having had much experience in the practice of medicine must have had many patients under their care affected with different forms of disease belonging to this general class, and they remember the discouraging aspect of some of those cases in the beginning, and the ill success attending some of them in their treatment. We have often been at a loss to know whether the palsy we were called upon to treat was the result of some lesion of the brain or spinal cord, or whether local or peripheral. In one of our former text-books we were instructed that if the palsy affects muscles that are supplied by different nerves, and such as have no communication with each other, we may set down the complaint as having central origin.

The general practitioner cannot give great attention to the study and investigation of diseases of this order. If he would know something concerning all of them, and neglect nothing else belonging to his profession equally as practical and important, he might, possibly, be able to realize, sooner or later, that he has comparatively but little knowledge of any of them. Such has been my experience.

In this brief paper it is proposed to include only a few particular forms of paralysis, such as have come under my limited observation and are now remembered. It would be impossible to consider all the different forms, divisions, and subdivisions and theories of etiology advanced. The whole belongs to a wide field of science and observation which years of study and volumes of writing would not exhaust.

By paralysis we mean a loss, or partial loss, of muscular action, or a diminution of general or special sensibility. We can do no better than accept the definition given by standard and scientific authors. Paralysis is only a symptom of disease. It may appear suddenly or develop slowly. When called upon to attend a case, we should, as far as possible, determine the cause before commencing the treatment. It should be determined, if possible, whether the condition is due to some lesion, and if so, where it is located, or whether due to some morbid condition of the nervous centers.

We are instructed by Da Costa, in his *Medical Diagnosis*, that complete paralysis attending most of the diseases of the brain or of the spinal cord comes from softening of the central nervous texture. Until the real functions of the brain and nerves are better understood we cannot expect to have a very perfect knowledge of the pathology of paralysis, but it is believed that the true cause may often be correctly determined. In some forms we may very safely assume that it depends upon an obstruction of the nerves, or nervous filaments, which enter into the structure of the brain or spinal cord, and that it is this ob-

struction which restricts or prevents the transmission of "volitions or passage of sensitive impressions."

Palsies may be of organic origin, or they may arise from functional disturbance of the nervous system, as manifested in nervous exhaustion, and occasionally observed in hysteria.

I have preserved in memory one particular case of hysterical paralysis, which, years ago, fell to my lot to treat. No record of the case was made at the time. So similar are these types to those of organic paralysis, that I was at first puzzled to distinguish the difference, or form a correct diagnosis. The patient was an unmarried lady of about twenty years, of a decidedly hysterical tendency. When first called the patient was found in bed in an almost helpless condition. She had on the day before met with a slight fall, which, as I supposed, had caused some spinal injury. I found her unable to flex or extend either leg, or move the foot to any considerable extent. It was observed that the right foot was extended and turned inward, assuming the equino-varus position. There was a partial insensibility of the skin. Later she appeared to suffer spinal hyperæsthesia, and would occasionally have a cataleptoid attack, much to the terror of her surrounding friends. She afterward lost the power of speech, and later lost that of whispering. There was evidently paresis of some of the vocal cords, but it did not result in atrophy, for she afterwards recovered her speech perfectly. For a time she had no power of articulation, but still had perfect use of the tongue.

The treatment consisted principally of nerve tonics, without any use of faradism or electricity. After some months of illness and discouragement, this patient finally recovered health, all functional derangement having been restored.

A. B., a laborer, age fifty-six, returned home at night in his usual good health, except somewhat fatigued from hard work and heat of the day. He awoke in the morning as well as usual, except he found there was a loss of power in one arm in trying to make with it a slight movement. He described the arm as having the sense of tingling, or numbness. He said he thought "his arm had fallen asleep from having lain on it during the night, and that he should be all right as soon as the blood could be made to circulate," and from what he said I thought he had taken a little stimulant for that purpose. The flexors and extensors of the arm at this time were weak. He could, with some effort, flex the forearm to a right angle only, and could barely oppose the thumb and index finger.

This case was seen occasionally for two weeks, at the end of which time there was no apparent improvement, but almost complete loss of the use of the extensors of the hand and forearm, the other muscles of the extremities being weak.

There was partial loss of sensation, extending from the hand over the whole arm. There was no real pain but a marked tenderness through the deltoid and biceps.

The paralysis appeared the most complete at the end of the third week. Nearly all the brachial plexus seemed to be involved. While standing the arm would hang helpless by the side and without the least power of flexion of the forearm.

By use of electricity and occasional application of stimulating liniments and giving iodide potassium and strychnia, the patient commenced a slow improvement, and at the end of six months had made almost complete recovery.

To what form of paralysis did this case belong, and where was the seat of lesion, and what nerves were involved?

This was the question with me. The conclusion was that it belonged to a mixed type of brachial paralysis.

The following case came to me last summer:

A man of sixty years awoke from a short nap which he had taken in the middle of the day, and then first experienced a prickling and numb sensation through the left arm, upon which he had been lying. He found the arm was weak, and that he could raise it only by some effort. The forearm could be flexed and supinated, but there was an entire loss of the extensors of the forearm. The hand was practically useless. The muscles which were involved appeared to include the triceps, the flexors and extensors of the fingers, and the muscles of the hand.

I first imagined I had found a case of lead poisoning, but finally placed it with those of the lower arm type of brachial paralysis. This case appeared to yield to treatment, and there was recovery within about four months.

We are all expected to be familiar with the phenomenon paralysis which follows an attack of cerebral apoplexy. Pathologists teach us that this is often caused by a rupture of cerebral arterioles resulting from degeneration and weakness of the vascular walls, but formerly attributed more to the atheromatous conditions of the larger blood vessels and to their fatty and calcareous degeneration.

It is not the purpose in this paper to attempt to describe these various lesions, and what they have to do in producing these conditions. It is sufficient for us, in common practice, to recognize these cases when we meet them face to face, and prescribe such palliative treatment as we are able.

It is not well to give too much encouragement to the anxious friends when we find a patient in a condition of coma, with an abnormally slow pulse and respiration, with an absence of reflex movements and immobility of the pupils. These conditions we sometimes find, and always consider them as grave symptoms and the sequence of some serious lesion of the brain.

We get many disorders of motion following acute attacks of this order. We often see pareses affecting the muscles of one eye, paralysis of the tongue, and paralysis of the limbs, affecting usually the side opposite the seat of lesion.

We get facial paralysis in different forms, and paralysis connected with diseases of the spinal cord, as in tabes dorsalis and disseminated sclerosis.

We meet with cases of paralysis agitans, or shaking palsy, designated also as Parkinson's disease. The tremor, here, indicates the decline of the motor power and is a precursor of the general paralysis which follows.

It is classed as a neurosis, and is placed among the peripheral nervous diseases. It is chronic in form, and progressive.

From all I am able to learn the pathology remains in obscurity, judging by the diversity of opinions in regard to it. Reports of post-mortem examinations made by the most careful observers and pathologists are at variance in regard to the locality and character of the lesions discovered, and are, on the whole, unsatisfactory.

While some have reported lesions found in the cerebral nervous system, others, in similar cases, after searching minutely in the same regions, have failed to discover those lesions.

While some have found them in the brain alone, others have found them in the spinal cord alone.

The following case is now under my care:

M. C., a teamster, 60 years old, some years ago sustained a fracture of one leg below the knee. The bones were repaired, but the leg continued painful for an unusual length of time. (This was not my surgical case.)

After a time a rhythmical tremor appeared in the foot and leg. It would at first discontinue during any voluntary effort and recur during any division of the patient's mind. The tremor appeared next in the hands and arms, and could be controlled then only for a few seconds by voluntary effort.

Next appeared those peculiar movements of the thumbs and forefingers which have been compared to the motions produced by rolling between them a pencil or paper ball, and during this the wrist continued to be flexed by jerks.

His will power at the present time cannot control the tremor, which appears worse whenever his attention is called to his condition.

His features are beginning to wear a blank-like expression except when occasionally excited to smile. When standing his head and neck are slightly bent forward; the elbows are kept apart from the chest; and the forearms and arms are in a flexed condition. When he attempts to walk he shows a tendency to fall forward as if trying to maintain his center of gravity. There is no nodding or shaking of the head. There is an apparent stiffness of the flexor muscles of the neck, trunk, and extremities.

He has, at present, no trouble with digestion, but is much troubled with insomnia. For medicine this patient has recently been taking the triple val. pill of quinine, iron and zinc, also fluid extract hyoscyamus, from five to fifteen drops three times a day.

The etiology of this affection may not always appear clear. We are told in *Pepper's System of Medicine*, Vol. V., Diseases of the Nervous System, that paralysis agitans may follow neuralgic or rheumatic pains in the limbs; that it may be caused by fright or sudden grief and prolonged exposure to cold and dampness, and that it "may follow some mechanical injury," as in the case herein reported.

Among the different forms of partial paralysis, hemiplegia is one of those most frequently seen. We have no difficulty in making our diagnosis, but the different lesions which give rise to hemiplegia are too numerous to be considered in any brief paper, or by any one except specialists.

If we cannot determine the nature of the lesion, we should be able to form an opinion whether the hemiplegia be functional or not. Our text-books tell us that, with rare exception, the lesions are intracranial. If not within the cranium, they are at the upper portion of the spinal cord.

Miss N. S., age 17, had for three months been a sufferer from muscular rheumatism, affecting the walls of the chest, at first showing preference for the region of the heart, where for weeks there was persistent pain. The physical signs pointed to endocardial trouble, although no distinct heart murmurs were discovered. Later the rheumatic pain suddenly left the chest, and appeared in the lower extremities, principally in the left leg, where it was of a cramp-like nature, and at times almost unendurable.

The month of July found the patient improving, and by August 1, she was considered convalescent, and was free from all rheumatic pain and lameness, though somewhat debilitated, and anæmic from protracted sickness.

While on the apparent road to good health she had an attack early in the morning, August 21, of right hemiplegia with partial aphasia, as she could only with difficulty call surrounding objects by name, or recall familiar words; but she was able to turn in bed, and could walk with some assistance.

I saw the patient again in twenty-four hours. The case

was then more developed. There was complete loss of sensation, and power of voluntary motion in right arm and leg; also anaesthesia through right side of chest and face. Complete aphasia had developed. She had intelligence, but could not find words with which to express ideas. She could swallow only with difficulty. Sphincters were not affected, but reflexes of right side were impaired. There was but very little febrile disturbance; pulse compressible as usual, and but slightly accelerated.

Means were taken to promote the circulation and maintain nutrition. The remedies included iodide potassium and strychnia. The patient commenced a slow improvement, and at the end of one week was able to speak, but in a slow, hesitating manner, and could thus express her thoughts and recall many of the most familiar words and names. Her intelligence appeared unimpaired, but from a peculiar inability she could not readily communicate ideas by speech to others.

She continued for three months to improve, and mostly regained the use of the muscles of her right side, and the nerves of sensation were nearly normal. After this she had another slight hemiplegic attack with aphasia, but was not at this time under my treatment or observation. As we would expect of such a paralytic case the patient has not regained her health.

According to my observation, it is very rare that an attack of paralysis, however slight, fails to leave its mark for years, if not through the remainder of life.

As this was an interesting case I was anxious to arrive at some conclusion as to what morbid condition this attack depended. Was it one of those rare cases of functional hemiplegia, or did it depend wholly, or in part, upon some lesion?

Flint in his *Practice of Medicine* says that "in a certain proportion of cases its functional character may be inferred from the brief duration, the completeness of recovery, and the absence of symptoms, exclusive of paralysis, denoting lesions."

The following is from an authority on nervous diseases:

"Cerebral embolism is most frequently due to diseases of the endocardium and heart valves. Inflammatory or atheromatous processes of the endocardium may cause a deposit of fibrin, portions of which, as well as fragments of the softened valves or calcareous concretions, become detached and are carried into the cerebral arteries."—Rosenthal, Vol. I, page 75.

"Paralysis from an embolism may be suspected when the hemiplegia is of brief duration, and associated with an aortic or mitral murmur. The interruption of the circulation in a portion of the brain from embolism or thrombosis may, however, lead to softening; the paralysis, then, persists and is no longer functional."—Flint, page 648.

The diagnosis arrived at was embolism, resulting from endocarditis and valvular trouble of the heart, and as a sequel to rheumatism of which the patient had an attack a few months prior.

W. R., a single man and farmer, age 45, was taken early in the morning, April 5, with a sense of prickling and numbness in the fingers. It next appeared in the toes; this sense of feeling afterward extended to the forearms and ankles. He managed to keep about the house during the day, and to do a few chores about the barn. The friends did not at first think seriously of his disability, but considered his illness only slight and due to exposure to wet and cold a few days before. On retiring at night he was unable to rest on account of the prickling and numbness which extended through arms and legs. He began to realize that he was growing worse.

I was called to see him at 2 A. M., the following morning after his attack; found him sitting up in a chair dressed, in a room, with all the family with whom he lived, present. On asking him why he was up at such an early hour, his reply was that he did not dare to go to bed for fear that if he should happen to close his eyes he would never be able to open them again. His facial expression was like one trying to keep his eyes open, as though they were held down by weights from the upper lids.

On examination I found partial ptosis of left eye. He could only by considerable effort elevate, in a small degree, the upper lid. He complained of a tightness or constriction across the throat. He could take nourishment in liquid form in small swallows; some of the fluid would pour out of the nose.

On Thursday preceding the attack, the patient assisted a neighbor in butchering. This was a cold, stormy day, at which time he probably took a sudden cold which, according to my theory, led to this illness, producing a morbid condition of the nervous system.

A mild purgative was first prescribed, followed by $\frac{1}{10}$ grain sulphate strychnine once in six hours. Iodide of potassium was also prescribed. Stimulating applications were made to the extremities and friction applied; and every effort was made to promote circulation to the parts affected, and passive exercise recommended under the influence of the will.

The patient was seen again April 7, at 8 A. M., about thirty hours after first visit. He was in bed with head and shoulders elevated, and in an almost helpless condition, unable to swallow food or medicine; had but very little use of muscles of lower extremities. Reflexes very much impaired; could barely draw up arms and legs, but had lost entire use of the extensor muscles. Had marked paresis of both upper eyelids. Eyes one half open. No hemiplegia or paraplegia; both sides and both extremities alike affected; sensation normal. The sphincters were intact. There was marked dysphasia indicating some disorder of the brain, and not necessarily from defect in the vocal cords. Nourishing enemata together with medicines were prescribed with discouraging effect.

I saw the patient late in the evening of the same day in consultation with Dr. I. J. Prouty; the same line of treatment was advised; except ice was applied to the throat in place of hot fomentations.

The patient had lost all power of deglutition; not one drop of fluid could pass the throat without strangulation. At this time the reflexes were absent. The patient was found next morning much weaker, with articulation less distinct; continued to fail through the day, terminating the next morning in coma and death. No autopsy.

I have reported the foregoing case because it appeared as an unusual one considering its form, its beginning, its course and termination. As before stated, we are not to regard paralysis as a disease, but a symptom. It is due to various causes. It may be due to a lesion, or some morbid condition of the nervous system. It may result from an affection of the nerves at their extremities. It may be due to reflex action through the medium of the spinal cord. Most commonly it is due to a serious interference with the circulation.

It was a question in this case whether it was not some form of Landry's paralysis as described in our modern text-books. We have clinical reports of acute ascending paralysis. A case is reported in the *American Year Book of Medicine and Surgery*, 1897, which in some respects is strikingly similar:

"A woman of 36 of negative previous history, was

taken November 19, with vomiting. Examination for evidences of syphilis was negative. On November 23, she rather suddenly lost power in the legs, and on November 24, there was added paralysis of left arm and paresis of the right. Sensation was normal.

"On November 25, the pulse was found to be 100 and regular, the temperature 101.4, the respiration 28, the urine of a specific gravity of 1.030, free from albumin, but containing a few hyaline casts. Both legs and left arm were completely paralyzed, and the right arm nearly so. There was some left ptosis. Sensation was normal; there was no pain or tenderness, the sphincters were intact, and the reflexes were lost. Dysphagia developed on the seventh day in this case and advanced to aphagia; there was marked dysphonia. This patient died ten days after first attack and six days from the outset of the paralysis."

Another case is reported in the *Annual of the Medical Sciences*, of 1894, Vol. II.:

"A miner, aged 52, had remained lying on damp ground, asleep, during five or six hours while in an intoxicated condition. On the following day the extremities were very weak; there was pain in the back and numbness of the hands and feet; later, increasing paralysis without anaesthesia, failure of patellar reflexes; on the sixth day the muscles of the abdomen became paralyzed, then the intercostal muscles, the upper extremities, and finally the muscles of deglutition. Shortly before death, on the eighth day, the facial muscles became paralyzed, and speech was difficult. The post-mortem showed nothing particular, save congestion of the spinal meninges."

Acute ascending paralysis is briefly described by our pathologists and bacteriologists as *acute toxemia*, in which the poisonous agents affect chiefly the nervous system.

The most common seat of the lesion is in the spinal cord and in the medulla, and it may be present in the cortex and in the nerve roots.

In my case herein reported the clinical evidence goes to show that the lesion had its beginning in the peripheral nerves, induced probably by exposure to cold. The disease afterward extended in an unusually rapid course to the brain and spinal cord, producing the condition of paralysis on the second and third days as described.

It might have been observed that my patient had been for years a sufferer from chronic rheumatism, and had indulged somewhat in stimulants, but there was no evidence of anything specific connected with the case.

THE WAY TO EMPLOY COLD IN TYPHOID FEVER.

BY G. R. JOHNSON, M.D., PHILADELPHIA, PA.

TYPHOID fever has been practically endemic throughout the civilized world for many years.

Different methods of treatment have been in vogue at different times, among these being purging, bleeding, and other equally radical measures. Then so-called therapeutic nihilists treated the disease without drugs and with great reputed success, probably because no treatment at all would show a larger per cent. of recoveries than would the barbarous treatment then used. But of late the mortality has been reduced from 35 to 40 per cent. to 7 or 8 per cent. The great reduction is due to several reasons: First, people are gradually acquiring somewhat of an immunity to the disease; second, owing to our knowledge of its transmission, prophylaxis prevents the individual from getting such virulent dosage of the infection as formerly; third, we know much better how to treat the disease.

The Brand method of treatment has undoubtedly been of the greatest value of any thus far advanced, and to it the great decrease in mortality is largely due. Not only in itself, but indirectly, this principle of hydrotherapy has been of the greatest possible value. It has shown the physician how much can be done without drugs and how little they are really needed in the majority of cases.

The treatment of typhoid fever by the use of cold depends on the reaction produced, and this must be obtained in every case or the treatment stopped. Mainly for this reason the bath treatment should not be begun after the third week, and does the most good when instituted before the fifth day. The treatment is practically that when the patient's temperature reaches 102½°, he is to be immersed in a tub of water at a temperature of 75°, rubbed for fifteen or twenty minutes, dried, put in bed, and if needed, a hot water bottle put at the feet and a stimulant of whisky given.

Now the Brand method has undoubtedly saved hundreds, probably thousands, of lives, yet this is no reason for employing it in every case. There should be no routine treatment in every case of any disease. The thing to do when called to a case of typhoid fever is to decide if it is possible to treat the case by hydrotherapy without resorting to the plunge bath. In private practice the questions of a suitable tub, assistants to put the patient into the tub, attend to the bath properly, etc., are serious ones and must be taken into consideration. Again, many more people will allow cold in the form of sponging to be used than can be persuaded to submit to the plunge. However, the Brand bath is exceptionally valuable in some cases where they are seen early in the attack, where the fever is high and it is almost impossible to reduce it by any other means. In these the plunge should be used if at all attainable. At the same time there are other cases where sponging gives just as good results.

If the plunge is used an ice cap should be applied to the head of the patient while he is in the bath or iced water poured over the head at intervals, this being also just as necessary when the sponge is being employed. In regard to obviating the difficulty of lack of attendants by having the patient walk to and from the tub or help himself into it, I do not think this is justifiable. It is generally held by physicians that it is best to conserve the strength of the patient as much as possible during an attack of fever, and this is best done by rest in bed. Again, it is a dangerous thing for a man in the third week of typhoid fever with a degenerated, dilated, and poisoned heart to get into the erect or semi-erect position or help himself in and out of the tub. If there is great ulceration of Peyer's patches, this change of position may so disturb the intestine as to cause hemorrhage. This principle is recognized when friction is used, by the fact that the belly is not kneaded, thus avoiding any traumatic disturbance of the gut. Assistants should always lift the patient into and out of the tub, some excellent devices having been suggested for thus carrying the patient. After having the bath the patient should not be covered too warmly. This should not be necessary if proper reaction has taken place, and at any time helps raise the temperature and counteracts the effect of the bath.

If the sponge is decided upon when the temperature is high and obstinate, the patient should be stripped and the bed protected by a rubber blanket, over which is placed a sheet. Then the nurse takes a piece of ice and sweeps it over the body vigorously, at the same time applying friction with the other hand, or having this done by another nurse. This friction is a most important part of the procedure, it increasing the loss of heat by at least 50 per

cent. over the application of cold alone. Pressure should not be great, but active friction with the ball of the thumb and palm of the hand until the skin is red from the reaction. If friction cannot be used, then do not apply cold, as the two must go together.

When the sponging is being done particular attention should be given to the great muscles of the back, buttocks, and thighs. These are great producers and conservers of heat, and thorough sponging of them has a decided effect upon the temperature. In this respect sponging is a great advantage over the plunge, as these muscles cannot be reached nearly so effectively when the patient is in a tub. There is also another advantage besides the mere reduction of temperature. This thorough friction stimulates the muscles upon which the patient lies nearly all the time, and thus keeps them and the more exposed portions of the skin over the bony prominences in a healthy state, aiding in excretion and greatly diminishing the liability to bedsores.

As before stated, it is difficult to give the plunge bath in private houses, and many people will allow the sponge who will not the bath. Patients who object to hydrotherapy can often be induced to yield to its employment by beginning gradually. First a tepid sponging may be given, and gradually less tepid water may be used until cold water is employed. Then state to the patient or friends that the point in the disease has been reached when water with pieces of ice in is needed, and finally ice water or pieces of ice as described may be used when it is found that the patient does not catch cold, as it is always feared will be the case. Frequently people will think it all right if alcohol is added to the water. This may be done, as it also adds to the cooling properties of the sponging.

THE TREATMENT OF TYPHOID FEVER.

BY STEPHEN THACH, M. D., DECHERD, TEXAS.

THERE is no disease which calls into operation all the faculties of a physician as this one does. He must not only medicate, but he must nurse and he must nourish. In fact, in my opinion, the medication is the least important of the three.

Some parties will embrace a line of treatment which we can lay down and follow in all cases. Whatever symptoms are most prominent are the ones to be treated in all diseases, and no two cases of this disease will present identical symptoms and more than two individuals are identical in appearance and character. Self-limited as it is, there is no such thing as cutting it short. We must conduct the patient through it as safely as possible, assisting nature where we can, removing an obstacle here and one there, preventing a complication, if possible, etc.

In the course of the first few days, if the bowels are costive, a small dose of castor oil may be given, after that refrain from laxatives. Quinine, I am satisfied, has no place as a curative agent in this disease. I am not a believer in the validity of the antipyretic action of quinine in continued fever in large doses, and am glad to be able to quote the authority of Sir William Jenner to sustain my lack of confidence in it. The reduction of temperature is an important item in the treatment, and one which is now receiving especial attention.

In my opinion a temperature ranging below 103° F. needs no medication, for it is not dangerous. Even when above this we should exercise extreme caution about the continued use of antipyretics, for they are dangerous. Every period in the history of medicine has its fad and

its hobby. Once it was fashionable to bleed, and every physician carried his pocket lancet; now it has gone into disuse, and how many of you have a lancet in your vest pocket?

The fad of this age is for antipyretics. Do you know that most of our modern antipyretics, especially the derivatives of the coal tar series, are effective in direct proportion to the depressing effect which they have on the heart's action? Then, is it not dangerous to persist in the use of those drugs which so impair the strength of that organ whose vitality and power are much needed later in the progress of the disease?

There are three periods in the course of typhoid fever when antipyretics are dangerous; first, in the early or middle period, where the patients have been moved and the temperature is elevated, as a result of exhaustion. I have seen a patient moved into the hospital with temperature higher than would be expected in that stage of disease, and in several instances antipyretics were given with bad results, and it was not until after two cases had terminated fatally that we discovered that nourishment and stimulation were needed to reduce that temperature. Again, there are certain cases where idiosyncrasies exist contraindicating the use of antipyretics, no matter how high the temperature goes, unless there is immediate danger to life. We have all seen parties who were especially susceptible to certain classes of drugs, and I have seen parties in whom a minimum dose of an antipyretic would produce alarming symptoms of collapse. It is in the latter stages of this fever that I think antipyretics are especially dangerous, and must be administered with the greatest care. It is when the temperature persistently remains at the maximum, but there is abatement of all other symptoms. At this time the patient is extremely exhausted, and bears antipyretics badly. This has been impressed on me very forcibly, for the only case of typhoid which I ever lost was under these circumstances: My patient was in the third week, and abatement of all symptoms had begun. I forbade his getting up, for the purpose of evacuating the bowels, but he had an extreme antipathy to the use of the bed pan. On this morning he had been up several times, and was up when it was announced that I was coming. Being especially anxious that I should not detect him in the act of disobeying my strict injunctions he hurriedly and without waiting for the assistance of any one climbed into bed. When I arrived he was breathing rapidly and considerably excited. On the application of the thermometer it registered 104½°. It had never been above 104° during the attack, and I feared pneumonic complication. I gave a small antipyretic, and after one hour's time I was sent for to see my patient in an extreme state of collapse, with temperature of 95.2-5°, and a cold, clammy sweat over entire surface of body. From this condition he never recovered. I have not the least doubt but my antipyretic did the work. Had I given a stimulant instead it would have reduced that temperature promptly.

Let me relate to you another case which has occurred within the last week. From the 15th to the 18th the temperature ranged from 104½° to 105½°. All other symptoms were rapidly declining in severity, and I withdrew all medication whatever. On evening of twentieth day temperature was 105½°, and I was tempted to give an antipyretic, but remembering my former disaster, I refrained. It began to fall, and by next morning was below 97°. Now, it was impossible for this decline in temperature to have been anticipated. Suppose I had, on finding that temperature 105½°, begun the use of antipyretics, and most of us would have done it, the result would have been death inevitably. Another burial and

another death from typhoid on my list. In my opinion, in almost all fevers when an antipyretic is necessary, water is the one par excellence. It is nature's antipyretic, the one which is most plentiful, most prompt, and most safe. We can secure it in a minute, get its effect in five minutes, and stop it almost immediately. Not so with drugs; we must wait for them to be prepared, wait for them to be absorbed and assimilated, and wait for them to be eliminated. If the vital energy is at a low ebb and assimilation slow, we must wait in vain, probably for hours, for an effect, and then probably get combined and accumulated action of several doses. Water is effectual and more satisfactory, given frequently and in whatsoever method you choose, internally, by sponge bath, pack or immersion.

Review the treatment of typhoid of half a century ago. The doors and all avenues of ventilation were closed, and water almost positively forbidden. No wonder the skin was found so dry, the temperature so persistently elevated, and death rate so high. Some years since Dr. Griscom, of New Jersey, took charge of a ship load of fever patients, and having no hospital facilities, built two shanties, and covered them with sails, placing eighty-two patients in them. The doctor himself would have rejoiced could he have been assured that one-half of them would recover. On the first night there was a severe thunder storm, and the rain came in torrents. The doctor walked his study all night mourning the loss of his patients. Imagine his surprise the next morning when he went out to remove the remaining ones into his residence, to find them all not only alive, but assuring him that they felt better than at any time during the attack, though still drenched and saturated with water. They were left in these tents, and again did heaven furnish them the bath which medical science had refused to administer. Not one single case out of that entire number proved fatal, wonderful to relate. Where was the physician at that day who could produce such a record in the treatment of fevers? This incident helped to revolutionize the world in regard to fever treatment. Was it not a rebuke sent by heaven to the medical science of that day, and an index pointing us to a true treatment?

The diarrhea, since it is a symptom in the progress of the disease, unless excessive, requires no medication. If evacuations exceed four or five within the twenty-four hours, opiates in small doses should be used, and if they prove futile, increase the amount, and add astringents; in extreme cases it may be necessary to use enema of opium and starch water with acetate of lead. If hemorrhage occur from the bowels, use astringents by mouth and injection. In regard to the use of ergot in intestinal hemorrhage of typhoid, I must beg pardon for exhibiting the presumption of taking a position diametrically opposed to that of most of the authorities of to-day. I hold that it is not only useless, but absolutely harmful, and does not check this hemorrhage, but increases it. It was only after many failures with this remedy, and special study in regard to it, and recent investigation, that I have come to this opinion. A hemorrhage of sufficient gravity in fever to require a resort to hemostatics to cause its cessation, usually emanates from an eroded vessel and one larger than an arteriole. Now, we find from our *materia medica* the constricting element of ergot is limited to arterioles. Now, is it not plain that when we use ergot and constrict the arterioles, and the source of hemorrhage is from the larger vessels, we cause a resistance in front, thus actually augmenting the hemorrhage? This fact, though of importance, is apparently known to few. It was pointed out some time since by Dr. A. G. Smith in relation to hematemesis of

gastric ulcers. Why not apply it to all hemorrhages? Is it possible that its action in the stomach should differ from its action further down the alimentary canal? Certainly not. The principle underlying it should govern the administration of ergot in all hemorrhages, to use it in that produced by capillary oozing, but avoid it in that resulting from rupture of a vessel larger than an arteriole. Still another important objection to the employment of ergot in intestinal hemorrhage is the fact that active peristaltic movements are thereby produced, the effects of which would inevitably be to disturb the ulcerated bowel, to provoke more rapid separation of the sloughs, and to aggravate tendencies to bleeding. These dangers are not imaginary, but real. Shall we attempt to medicate the affections of the glands of Peyer? Since to my mind this is only symptomatic of the disease, only its palliation is indicated, especially in mild cases; after the twelfth day, if defervescence does not take place, and restlessness is great, with abdominal tenderness, oil of turpentine is recommended both by authority and experience. Its special action here I cannot explain. I know it is a valuable antiseptic, and the internal antiseptic treatment is becoming quite popular. The bladder should receive attention day by day to prevent or relieve retention. All the dejecta should be rendered inert by disinfectants and burned or buried, since it is from this source it is generally conveyed. Care must be taken to avoid bed sores, and parts threatened should be rubbed well with whisky, camphor and olive oil; bed-clothes should be kept smooth under the parts, and protect them by the adjustment of pillows. Actual excoriations must be treated like ulcers with cerates, lime water, poultices, etc.

We now take up the most important part of the treatment, namely, the diet. As I have said, we should use but little medication. I will say we should use much alimentation, remembering that in continued fevers there is a constant drain on the vital energy stored up in this organism, and unless we replenish often and bountifully, this draught will soon exhaust the supply. We may lay it down as a rule that a diet containing as little excrementitious matter as possible is the best adapted to these cases, for we want no hard fecal matter passing over these ulcerated spots, irritating them and promoting hemorrhages. Oatmeal gruel, toast water, rice water, are excellent diet for first few days, then the addition of milk and fruit juices in bountiful quantities; most authorities prefer sweet milk, while a few use buttermilk exclusively. I have tried the latter in several cases and found that the acid was potent in relieving thirst and allaying restlessness. While doing hospital practice I have frequently used pure beef juice. A patient prostrated with typhoid should be waked day and night to take the required nourishment, else he may sink for the want of it. Shall we give our patients alcoholic stimulants? I have seen many cases that did not need it at all; few that needed it before the middle or end of second week; after that time they may require it in some form, first in wine whey, later in whisky or brandy punch. Sir William Jenner's rule is undoubtedly a good one, "in typhoid fever refrain from alcohol, if in the case before me I doubt the wisdom of giving it, and, when there is a question of a larger or a smaller dose, always give the smaller."

In summing up the treatment, let me say, since it is a specific disease for which we have no specific remedy, treat with antiseptics, husband your patient's strength, feed him, bathe him, enforce free ventilation and scrupulous disinfection, and last, but by no means least, give him internally and externally all the good, fresh, pure, cold water his system demands.

PNEUMONIA THAT ONLY THREATENS.

BY GEORGE DUNSMORE, M.D., ST. ALBANS, VT.

IT is no uncommon thing to read in the newspapers of the day of some man of note who is threatened with pneumonia.

This is the kind of pneumonia of which I wish to speak. To me it is a new disease, having never heard of it until within a few years. Of its causes, symptoms, pathology, and treatment I know nothing, as I have never had the good or bad fortune to see a case of it. I assume that it must be of microbic origin, as every other disease now is. I must admit that I have very dire apprehensions that it may possibly be classed with the professor's bug. As the story goes, the professor told the boys that he wished them to bring him any rare specimens of bugs they might find, so that he might name them. The boys did as requested, and invariably found themselves bringing him bugs so common and so familiar to him that the business became monotonous. So they concluded to trap him. To this end they caught several bugs, and after disembowelling them, carefully and methodically made a new bug from them and presented it to him with the request that he would name it. After looking at it a moment he said, "Gentlemen, this is a *Hum-bug*."

I do not like to appear incredulous, because it might place me under the ban of old fogeyism, but I very much fear that the bug of this disease is a *hum-bug*. Let me emphasize a point right here; it is the difference between a threat and an execution. So long as my enemy only threatens to shoot me, I am safe, not even the smell of gunpowder on me.

So a disease that has only threatened has not yet struck a blow; when it strikes the threat ceases.

A threat is something outside of the party threatened. It is true that, if the party threatened sees the attacking party, he may manifest his apprehension of danger by such signs as the onlooker may readily interpret. In this case, however, it is only the doctor who sees the ghost. It reminds me of a spiritualistic meeting I once attended, where, it was said, ghosts of all ages and sizes abounded; where their names and the very color of their eyes were given. Yet in this shifting phenomenon of ghosts the medium, like our doctor, was the only one who saw them. Pneumonia, like a club, can leave no marks until it strikes, and cannot strike so long as it only threatens to strike.

Now, pneumonia to threaten must have some threatening signs, and they must be in it and not in the man. Will some one who has seen them tell? Do they come in the form of ghosts and shake their gory locks so deftly that only the physician can see them?

Croupous pneumonia is the form that usually attacks adults, and it does not hail its approach by throwing up sky rockets. It comes like a thief in the night. A man goes to bed well so far as he knows, is awakened in the night with a chill, followed by fever and perhaps pain in one or both pleura. He is not threatened now with pneumonia; he has it. It is pneumonia from start to finish.

Within a year a woman said to me, "You cannot imagine what a narrow escape I had from pneumonia. The doctor said he never saw anyone come so near having it and not have it." I said, "You must have thought of and consoled yourself with that old saying, 'A miss is as good as a mile.'" On another occasion, not long since, a woman of ordinary intelligence, but of a nervous temperament, said to me: "I was taken sick and sent for a doctor; he said I was threatened with pneumonia, and

made me three visits that day." "I suppose you had it then," I said. "No, no. I was only threatened with it." Query—If a threat requires three visits a day, how many would the reality need? The power of seeing this apparition is not given to all doctors alike. It may be a question how our doctor of the three visits acquired this art. Not through hypnotic or spiritualistic influences, as the former would imply that he was controlled by his patient, and as for the latter, it deals only with the ghosts of departed mortals, and not with the apparitions of disease.

May it not be that our doctor is a soothsayer, and hence can predict the coming of events? When he predicts pneumonia, he differs from the ordinary fortune-teller, whose predictions usually brighten and lighten up the pathway of life with good cheer and happy days, and a long life, and a green old age disturbed by no fear of a threatened pneumonia. You may say that our doctor has good cheer for himself. Is it not good cheer to make three satisfactory visits where one would have done? I said satisfactory visits, for any number would be satisfactory to the man who is led to believe that pneumonia is weaving around him its baneful web.

Have the medical trees become so productive of fruits that their branches have to be supported by such props as this?

It is true we are many and with every prospect of being many more. Twenty years ago there were in the village (now city) of St. Albans, seven of us—to-day we number twenty-one, with an increase in the population of less than four hundred. Add to this that we have a body of men appointed by the Governor, through no political pull or favoritism, but purely on their merits as experts (to use their own language) in stamping out the diseases of the State at \$5.00 per day and expenses. Then think of the number of their appointees (all on merit, of course), 245, making in round numbers an army of 500 feet, all stamping, stamping, together.

Gentlemen, think of an army of 500 feet stamping upon a few poor, defenseless microbes. What would, what could alone be the outcome? Nothing seems to escape the Argus eyes of these men. Even the poor little *measly* microbe, protecting, as it does, adult life from a disease incident to childhood, has fallen under their ban. Is it any wonder, with such State scavengers running before, behind and around us, that we should see visions?

He who has not the power of discerning the specter of a threatening pneumonia will not fail to see visions of empty pocket-books and howling creditors.

Add to these the patent medicines whose advertisements fill alike the secular and religious press of the country. Then consider the never-ending liberality of our Legislature in legalizing anything that wants to be legalized. And I must say that the more ludicrous the object seeking legislation, especially if it has any reference to the healing art, the more certain it is of success, and the better it takes with the people.

With all these, and many other, drawbacks, is it any wonder that our doctors should see things not visible to mortal ken?

SOME USES OF VERATRUM VIRIDE.

BY BENJ. L. SIMMONS, M.D., GRANVILLE, TENN.

SPECIFIC veratrum has a remarkably curative force when properly directed. It is not a "cure all," and its indications are not patented. It is not a proprietary article, but a pure, unadulterated preparation of veratrum viride. Like all other drugs, the intensity of its force must be reasonably measured. Like

all other medicines, it is not digested, hence, not assimilated. Like all other medicinal agents, the intensity of its force is proportionate to the quantity administered, the quality remaining the same. Like all other drugs, it has no dual action. The full and frequent pulse, the full and bounding pulse, the full, frequent and hard pulse, the hard pulse, the hard and wiry pulse, the small and hard pulse, each as a rule demands the veratrum force. In croup, in meningitis, laryngitis, bronchitis, and pneumonia, the characteristic pulse being present, the veratrum force is eminently useful. Pneumonia in its first stage is oftentimes arrested by it. Chronic diseases with evident derangement of the sympathetic nerves should receive a graduated quantity of the veratrum force.

In phthisis, when great dyspnoea is present, and patient more or less cyanotic, veratrum, combined with quebracho, is indeed valuable.

R Sp. Veratrum..... gtt. xv.
F. E. Quebracho (P. D. & Co.)..... ʒijss
Elix. Simpl..... ʒjv

M. Sig. Dose a teaspoonful, to be repeated every two to three hours. Given in two to four drop doses every three to five hours, veratrum ameliorates the symptoms of cardiac hypertrophy.

Combined with specific ipecac and administered every fifteen minutes until slight nausea is produced, then less often, veratrum is a superior agent in active hemorrhage.

Puerperal eclampsia, epileptiform in nature, and not due to uræmia, is often arrested by a free use of veratrum hypodermically.

Irritation of the sympathetic nerves as marked by a tongue, having a clean, dry streak through center of surface, from base to tip, demands the use of veratrum.

In all acute diseases ending by crisis, veratrum, when indicated, is invaluable.

Combined with specific gelsemium, it reduces determination of blood to the brain when marked by a flushed face, bright eyes, and excited carotids. Superficial erysipelas, having the color of ordinary inflammation, is cured by internal and local use of veratrum.

Sprayed upon the tonsils, it will arrest tonsillitis in the stage of engorgement.

Locally, it is valuable in orchitis, mastitis, etc.

The suffering due to a bubo or a phlegmon is mitigated by a local use of it.

Ordinarily in acute lesions the dose will be the fraction of a drop; five to fifteen drops to water four ounces, a teaspoonful of the mixture every half to one hour.

Locally it should be applied undiluted.

SCHOOLS WRECK THE HEALTH AND HAPPINESS OF THOUSANDS.

"Do American men and women realize that in five cities of our country alone there were during the last school term over sixteen thousand children between the ages of eight and fourteen taken out of the public schools because their nervous systems were wrecked, and their minds were incapable of going on any further in the infernal cramming system which exists to-day in our schools?" inquires Edward Bok in the January *Ladies' Home Journal*. "And these sixteen thousand helpless little wrecks," he continues, "are simply the children we know about. Conservative medical men who have given their lives to the study of children place the number whose health is shattered by overstudy at more than fifty thousand each year. It is putting the truth mildly to state that, of all American institutions, that which deals with the public education of our children is at once the most faulty, the most unintelligent and the most cruel."

A PLEA FOR THE EXPLORATORY ABDOMINAL INCISION.

DANIEL J. BAKER, M. D., (LATE HOUSE SURGEON METROPOLITAN HOSPITAL, N. Y.) PHILADELPHIA, PA.

Every operator of experience has observed the deplorable condition of patients who have been suffering from surgical conditions, perhaps for years, yet have been prevented from receiving the necessary attention by the fact that their attending physician has either not recognized it as a surgical condition or has ignored it; or perhaps he has gone so far as to restrain the patient from undergoing surgical treatment even though the patient desired it. Many practitioners seem to feel that to call in the expert implies a lack of ability on their own part, but I believe that the physician who is quick to recognize his inability to diagnose or to cope with an obscure condition and at once calls in the specialist gains infinitely rather than loses in the estimation of his patients.

In the diagnosis of abdominal conditions we are almost entirely deprived of the use of our visual sense and, to a great extent, of our tactile sense also. Of course there are many such conditions that may be diagnosed, but there are not a few others that cannot be recognized by either the general practitioner or by the expert and in these the only treatment that will result for the patient's good is to explore and determine the condition accurately. This will at least enable us to treat the case intelligently and affords an opportunity for radical treatment that may result in cure or great relief.

This subject opens such an immense field for discussion that I shall not enter into it, but will simply state my opinions and, to substantiate them, cite a few cases which I observed as House Surgeon in the female surgical ward in the Metropolitan Hospital, New York. My visiting surgeon, Dr. Arthur T. Hills, kindly permitted me to operate some cases in his presence and granted me the privilege of presenting this paper. The time that elapsed between the dates of admission and operation of these cases proves that they were not hurriedly subjected to surgical treatment as the quickest method of handling an obscure disorder. Each case was carefully examined and received the best internal and local treatment possible before operative interference was sanctioned. I began the observation of these cases with the ordinary beliefs regarding abdominal surgery, but completed it profoundly impressed with the truth of the following points:

1. Surgical cases are surgical from the beginning.
2. In obscure cases or where there is grave doubt our duty is to explore.
3. The sooner the operator is called in, the better, from the standpoints of ease of operation and increased chances in favor of the patient.

Case 1.—A woman well past middle life who complained only of severe pain in both lower extremities which were covered with immense varices apparently ready to rupture at any point, but especially just below

the saphenous opening, where they stood out in masses nearly one-half the size of a man's fist. The varices did not disappear even when the patient was in bed and were due to obstruction of the return circulation by a fibroid tumor of the uterus which probably weighed twenty pounds and which had been growing for fifteen years. Her condition was both deplorable and dangerous, but she refused to have the tumor removed because, six or eight years ago, a physician had told her never to permit an operation. I could not but feel profound sympathy for this case because the unwarranted advice of her former attendant had so influenced her that she was debarred from receiving the benefit of improved surgery. Her abdomen had not been examined and therefore no accurate knowledge of her condition could have been possessed by the one who gave the advice.

Case 2.—A. K. 22. Married, Sweden. Housework. Admitted Feb. 4, 1899, with a history of having aborted three weeks before. Her uterus was curetted by my predecessor, Dr. W. H. Rennie, who reported the case to me, when I assumed charge of the ward on March 1, as having a retroverted uterus which she was anxious to have treated. About two weeks later, while I was trying to improve her general condition, she suddenly developed pleuritis in the lower right chest, laterally. This was readily cured with Bryonia, but about two weeks later similar symptoms returned with no accompanying physical signs and this time nothing gave relief. Knowing that disorders of pelvic organs often give rise to strange reflex symptoms and as examination revealed nothing more than the retroverted uterus, we decided to explore and at least correct the latter condition. The abdomen was opened on April 24 and the uterus discovered to be firmly bound down posteriorly, while on the left side appeared a pus tube and cystic ovary. These latter were removed and the former stitched to the anterior abdominal wall. On her recovery from anaesthesia she announced the absence of the chest pain and after a perfect recovery she was discharged cured.

Case 3.—R. M. Polish Jewess. 20. Single. Domestic. Admitted March 24, 1899, suffering from severe burning and sticking pain in the left hypochondrium. Examination revealed a tumor in that region which was about one-half the size of an adult head, very resistant but slightly fluctuating and very sensitive. There was an almost total suppression of urine that internal remedies failed to relieve. What few drops we could get contained a thick, stringy, white sediment. She grew rapidly worse, so, making a provisional diagnosis of hydro, or pyo-nephrosis, I reported the case to Dr. Hills, who sent Dr. W. F. Honan to represent him. On April 6 Dr. Honan catheterized both ureters, but obtained only a few drops of clear urine from each. These were at once examined, with negative results. The samemight Apis was administered internally and in the next twenty-four hours the patient passed forty-two ounces of clear, pale urine. The tumor at once disappeared, but she immediately complained of severe but indefinite pain in the lower abdomen. Some six or nine months before this her uterus and adnexa had been re-

moved for reasons unknown to me and therefore we suspected pelvic adhesions as the cause of her suffering. On April 24 Dr. Stewart opened her abdomen and found no adhesions, but an acutely inflamed vermiform appendix, which he removed, with immediate cure of the symptoms. This case was intensely neurotic and was later transferred to the medical ward for treatment of that condition.

Case 4.—B. D. (negress). Age 20. Single. U. S. Housework. Admitted March 24, 1899, on the medical ward and later transferred. She gave a history of sexual intercourse followed by a vaginal discharge and burning pain in the pelvis—not localized. Examination revealed gonorrhoeal endometritis and a retroverted uterus with partial prolapse. Local treatment failing, the uterus was curetted on April 24. From this the discharge ceased, but the pain persisted and on April 27 the abdomen was opened and an enlarged and cystic ovary was removed from the left side and the uterine displacement was corrected by ventro-fixation. Slow recovery, but complete cure.

Case 5.—J. S. Aged 20. Married. Austria. Button-hole worker. Admitted April 7, 1899. Her history was that she had begun the life of a prostitute three weeks before and had soon after developed a profuse vaginal discharge and severe burning in both sides of the pelvis. Examination revealed a retroverted uterus and the worst case of gonorrhoeal endometritis I ever saw. The uterine discharge was so profuse that it was impossible to keep her in a state of physical cleanliness. Her abdomen was so sensitive that I could not palpate it. On April 21 the uterus was curetted with only temporary cessation of the discharge and no relief of the pain. On April 28 the abdomen was opened and the uterus and adnexa found to be tightly adherent posteriorly. They were loosened and two large pus tubes revealed and removed. The ovaries were also removed because of cystic degeneration and the uterus was stitched to the anterior abdominal wall. She gained flesh as rapidly as she had previously lost it, but suffered some pelvic pain, which was best relieved by Ignatia. Recovery complete.

Case 6.—C. P. Age 33. Married (?). U. S. Housework. Admitted March 30, 1899. Brought on a stretcher lying in a pool of blood and almost exsanguinated. She gave a history of bleeding from the vagina for two days, during which time she had been walking about the city trying to secure admission to some hospital. She further stated that, while in our ambulance, something in her pelvis suddenly gave way with excruciating pain and a tremendous gush of blood. Dr. Honan was in the operating room and at once examined her and removed a five and one-half months foetus which had caught by its shoulders in the cervix. As the uterus was completely emptied, it was douched and the patient put to bed and stimulative treatment adopted. On this and the following night we used the subcutaneous saline infusion with gratifying results. Everything went well for a short time, but she developed an endometritis for which the uterus was curetted on April 21. Following this she complained of a severe, indefinite pain in the pelvis, which she

could not localize. She deteriorated rapidly and on April 27 an old laceration of the cervix was repaired and the abdomen opened and a pus tube and cystic ovary removed from the right side, along with an acutely inflamed appendix. The uterus being retroverted, this condition was corrected by ventro-fixation. She was profoundly shocked, but made a complete recovery under stimulative treatment. The latter operation was performed by my senior assistant, Dr. George M. Chamberlin.

Case 7.—A. M. Age 63. Married. Germany. Housework. Admitted April 12, 1899, on the medical ward and later transferred. She was very dull mentally, but said she had a falling of the womb on every attempt at defecation, with bearing down and distress in the pelvic region at other times. Examination revealed a retroverted uterus and a large sensitive mass in the left side of the pelvis which could not be outlined because of the thickness of her abdominal walls. She readily consented to an exploratory operation, which was performed on April 30, and resulted in the removal of multilocular cysts of both ovaries and ventro-fixation of the uterus. The cysts were of the same size and about one-half the size of a baseball. She immediately improved both mentally and physically and everything went well until the eighth day, when she developed septic symptoms and a prostration so profound that we could not resort to further surgical treatment. In spite of all we could do she died on the fifteenth day. Autopsy revealed a perfectly united wound and septic peritonitis due to rupture of a stitch abscess which had developed beneath the abdominal muscles some distance to the left of the wound. The thickness of the abdominal walls, which contained a three inch layer of fat, prevented us from localizing and removing the collection of pus.

These cases have not in any sense been selected, but are given just as they recurred to my mind. Coming as they did just at the close of my hospital experience, they convinced me of the truth of the statements made earlier in this paper and are presented with the hope that some one may also be impressed with the value of early surgical treatment in obscure abdominal conditions.

1,706 North Nineteenth St.

—The annual ball of the internes of the various hospitals of Paris and the medical students was even more "picturesque" this year than usual. In the procession the Hospital Enfants Malades was represented by a band of infants five and six feet tall; the Lourcine by a group from the Revolution bearing the guillotine and the decapitated body of the king; St. Antoine, by a dream of fair women; The Medical Press, by the belle of the Quartier Latin decked with specimens of the different 216 local medical journals; Bicetre, by a negress in the "Costume de Rarahu," borne on the shoulders of a stalwart youth; Lapiboisiere, by a Prometheus with the vulture preying on his vitals; etc.

GLEANINGS.

Resection of the Cervical Sympathetic in Epilepsy, Exophthalmic Goiter and Glaucoma.—Jonnesco (*Ctbl. f. Chir.*, February 11, 1899) published a brief article upon the above subject two years ago. Since that time he has performed the operation upon fifty-four patients, making altogether sixty-one patients operated upon in this manner. No bad effects were observed after the operations. There were no trophic disturbances, nor was any influence noticeable on the general or mental condition of the patient. In ten cases of true exophthalmic goiter a cure was six times obtained, and an improvement four times. The exophthalmos first disappeared, then the nervousness and tachycardia, and then the goiter. The results upon cases of secondary exophthalmic goiter were less satisfactory. Forty-five epileptics were operated upon, of whom six died in a shorter or longer time, either in an epileptic attack, or of some other trouble. Of nineteen patients who were observed for a considerable length of time, 55 per cent. were cured, 28 per cent. improved, and 15 per cent. were not improved. It must not be inferred that the operation is indicated in all cases of epilepsy. In old cases with either mania or dementia, there are already changes in the brain which no operation can help. In recent uncomplicated cases, on the other hand, there is every reason to look for a brilliant result. In glaucoma the results were equally good. They consisted in lessening of the ocular tension, contraction of the pupil, lessening or disappearance of the periorbital pain and headache, disappearance of the attacks of the irritative form of the disease, and an improvement of vision with increase in the field, in those patients in whom atrophy of the pupillary layer was not absolute.

The Utilization of Putrid Meat.—In France nothing is allowed to go to waste. Meat unfit for food and the bodies of animals that have died of disease are extensively used for the manufacture of superphosphates. The meat is placed in a vat containing sulphuric acid, which separates the resulting nitrogenous product from the fat. The dead animals are thrown whole into covered lead-lined vats full of sulphuric acid of 66° Beaumé. If these animals have died of anthrax or glanders they are cut up before being thrown in. In the course of forty-eight hours the fat alone remains, and the animalized sulphuric acid, rich in nitrogenous substances, is drawn off and sent through an underground conduit to the superphosphate factory. Thus, instead of the unsanitary method of burying such putrid substances directly in the ground, they are effectually disposed of by the complete destruction of all injurious germs; and there results a product available in the manufacture of a valuable fertilizer.

Dr. A. Bloch, the French anthropologist, attacks the theory that thick lips are a denotement of sensuality, while thin and delicate lips denote spirituality, firmness, and elevated character. In a recent paper the scientist claims that the shape, size and color of the lips are purely race characteristics, and that in the hybrid peoples of Europe and America, where there has been such a general intermingling of races, a child may well inherit from not very remote ancestors lip forms that completely belie the actual character of the child, as indicated by the lip theory. Dr. Bloch's investigations satisfy him that really thick lips in the white races are always anomalies or freaks of nature.

Effect of Repeated Coitus on the Seminal Fluid.—Victor G. Vecki, in his book on the "Pathology and Treatment of Sexual Impotence" (Philadelphia: W. B. Saunders), puts forward certain statements under the physiology of the sexual act, which have roused quite a commotion in the ranks of German old-fogydom. He rejects the ordinary views as to the infrequency and insufficient vitality of spermatozoa after repeated coitus. A series of microscopic observations have shown him that in vigorous, healthy men coitus, after weeks of abstention from the act, is not accompanied by the ejaculation of seminal fluid teeming, as has been said, with abundant and lively spermatozoa, but that, on the contrary, they are comparatively rare. Many show no manifestation of life, and others are by no means active. Repeated coitus is followed by an abundance of young, very active spermatozoa.

Observations on the fluid of seminal emissions, though often made within an hour after the event, rarely showed many spermatozoa, and the few present were, as a rule, not especially active. Spermatozoa seem to degenerate while in the seminal vesicles, and it is only after these are emptied that really active germinal particles are to be found in the seminal fluid. The importance of this for certain forms of sterility is evident. This theory, too, gives a new biological significance to nocturnal emissions that occur normally in the continent. Nature is getting rid of germinal material that is no longer in proper condition to fulfill its function perfectly, not merely wasting, as has been taught, precious reproductive elements.

Leonurus Cardiac for Suppressed Lochia.—Dr. W. T. Church writes to the *Med. Standard* that he has found the above remedy mentioned "in only one work on therapeutics out of half a dozen consulted. This one states that 'motherwort is positive in suppressed lochia from any cause.' My experience corroborates this statement. Motherwort has never failed me since I began its use several years ago.

"... The patient is apparently not weakened by motherwort, unless it is by the diaphoresis produced, and this aids in the reduction of temperature. The drug is also claimed to be a tonic and nerve. I do not, of course, advocate its use in cases of extreme weakness, where stimulation only is indicated.

"The fluid extract is the form used, and should be given in $\frac{1}{2}$ to 1 drachm doses every four hours, preferably with warm drinks.

"Motherwort is no less highly recommended by the author above quoted for amenorrhoea from a cold. I have no doubt the result would be satisfactory. There is no reason to suppose that it would not also act in case the amenorrhoea were due to something else. I do not expect such a drug will act in a certain way on the non-gravid uterus, and not act at all in case of pregnancy."

Apomorphine in Strychnine Poisoning.—Dr. H. B. Stanley says, in the *Medical Summary*: "The best way to administer it is by hypodermic injection. One-quarter grain should be injected into the cellular tissue of a strong, healthy man; if given by the mouth at least $\frac{1}{2}$ grain should be given, and followed by copious draughts of water.

"Even if cramping and convulsions have begun they will cease as soon as the remedy begins to act on the system.

"Apomorphine, if given in this way, so as to act any time before the respiratory nervous center becomes paralyzed, will prove a sure antidote."

The Brand Treatment Condemned.—In a paper on the diagnosis and treatment of typhoid fever (*Charlotte Medical Journal*, October, 1899), W. C. Sumner denounces the Brand treatment for the following reasons:

First—Because it is impracticable for the general practitioner, and because it is not suitable in those cases where it is claimed the heart will not bear the antipyretic drugs. Brand himself says of the treatment: "It should not be used under any circumstances, unless there is proper massage—that in such cases it is not only useless, but absolutely dangerous." Very few of our best physicians know much of the art or practice of massage. Brand also says it must not be used if we have a weak heart, as it exaggerates arterial pressure.

Second—Because it is absolutely dangerous and criminal left in the hands of a nurse, such as we have in our general practice, who is not capable of judging either when it shall be used or when the effect is sufficient to discontinue it, and is not capable of intelligently using massage.

Third—Because of the worry, excitement, and shock produced by it on the patient.

I would only use the sponge bath, which is often grateful to the patient, more practical for general use, less apt to do harm, and will help to reduce the temperature without worry, excitement or shock.

Prevention of Hay Fever.—Dr. Alexander Rixa states (*J. A. M. A.*) that as a result of his researches he found the primitive and active cause of this peculiar disease. He next conceived the idea of rendering the soil aseptic in order to prevent the effects of the pollen. He describes the method which he adopted in the following words:

"About two weeks before the onset of the disease I commence to irrigate or sterilize the nasal cavity and the post-nasal spaces, using the douche and atomizer, with hydrozone, which is a 30-volume aqueous solution of peroxide of hydrogen. At the beginning I use it for irrigation, diluted in the proportion of 1 ounce of hydrozone to 12 ounces of sterilized water. Nearing the period of the expected onset of the disease, I increase the dose to 2 or 3 ounces of hydrozone to 12 ounces of the sterilized water, according to the severity of the disease, using the douche, either tepid or cold, four times a day—morning, noon, evening and at bed-time—while during the intervals I use the atomizer, with a solution of hydrozone or pure glycerine, or sterilized water, 1 to 3, thus keeping the nares perfectly aseptic during the entire period, and preventing the outbreak of the disease in consequence thereof.

Incisions into the Hairy Scalp.—Dr. G. Monks (*Boston Med. and Surg. Journal*, February 16), noticing the fact that scars in the scalp often seemed to be unduly broad, as the result of careful investigations concludes that this result is due to the nature of the incision (whether accidental or purposive) and its relation to the direction of the hair roots. He advises, therefore, that whenever it is necessary to make an incision into the hairy scalp in the back of the head, and especially when it is particularly desirable to conceal the scar, the knife should be held in a position at right angles to the surface of the skin when a vertical incision is to be made, but in a position oblique in reference to the skin whenever a transverse incision is contemplated—that is to say, as the knife goes through the scalp the blade should be kept parallel to the roots of the hair, so as not to divide them. This point, he says, may also find its application in the treatment of scalp wounds whenever it becomes necessary to trim the raw edges of the wound before stitching them together.

Glass Brick Walls for Operating and Work Rooms.—In building an operating room facing the east and close to the street, F. Kuhn (*Muench. med. Woch.*, July 11 and 25, 1899) employed the Falconnier glass bricks, which are small cubes or diamonds of glass filled with air, and fitted and mortared together like ordinary bricks. He found that no windows were required, as the light penetrated sufficiently, although it is absolutely impossible to see in or through them, even with a light inside at night. A skylight above supplies the direct light, which is reflected and multiplied by the glass walls, without glare. They also modify the temperature of the room remarkably, modifying both heat and cold, and also deadening the noises without. Still another advantage is that these walls do not frost over in winter, and that they look clean, both out and inside, and can be easily be kept aseptic inside, while they are very ornamental.

Bichloride Baths in Smallpox.—This treatment, which was suggested to Bibb by Dr. T. O. Osborn (*Texas Med. Jour.*, *J. A. M. A.*) was tried by the former with great success in fifty-five cases, only two of which died, both complicated cases, and in the early stage of the disease. Drs. Lowry and Parsons, who have used it in several hundred cases in Mexico, have informed him that neither has lost a case since they began it. He thinks the facts warrant the following conclusions: 1. Bichloride of mercury is the rational treatment of variola. 2. Its use will prevent itching, foul odors, pustulation, abscesses and pitting. 3. It will greatly lessen the mortality and suffering from one of the most loathsome diseases that affect the human race. 4. It should be expected to destroy the variolous virus in the vesicles and pustules, thus rendering the scabs and scales harmless, reducing thereby to the minimum the dangers of infection from a given case of smallpox.

Hot Air in Therapeutics.—In the *Memphis Lancet* for November, 1899 (*Phil. M. J.*), the subject of superheated air is treated by Goltman, who believes from his experience and that of others that under no other method will hydrops articuli, functional ankylosis resulting from wearing of apparatus, plastic synovitis, tendosynovitis and sprain disappear as rapidly as after treatment with superheated air, especially when the conditions are acute. The destruction of tubercle bacilli by high temperature makes it worthy of mention that a case of lupus and another of tuberculous arthritis were apparently cured by this treatment. In arthritis deformans it relieves the pain, but if over-used it may do harm, and he has almost abandoned its use in this affection. He has on several occasions reduced swelling to the extent of 2½ inches with one application.

Hay Fever, we are told by Dr. Rixa, of New York, can be prevented by douching and spraying the nasal cavity and post-nasal spaces with solutions of hydrogen peroxide of suitable strength. He begins irrigating with one part of Hydrozone (aqua hydrogenii dioxidi—Marchand), i. e., a thirty volume solution of hydrogen peroxide to twelve parts of sterilized water. As the period of the expected onset of the disease approaches he increases the strength from one part to two or three parts in twelve, using it either tepid or cold, four times a day. In the intervening time he uses the atomizer with a solution composed of Hydrozone and glycerine, or Hydrozone, in sterilized water, one part to three. The author declares that, as a rule, this line of treatment is sufficient to avert the attack and keep the patient in comfort.

A Fallacy of Rest-Cure Treatment.—George M. Gould (*Jrnl. A. M. A.*, Sept. 9, 1899) declares that the following should be emphasized in regard to the rest-cure:

1. It is positively criminal negligence to ignore eye strain in any case requiring the rest-cure treatment.
2. It is not enough to know that the oculist has examined the eyes, especially if it has been done without a mydriatic.
3. To mydriaticize a pair of eyes for a month or two would often do more good, would certainly be more logical, would be an infinitely better means of differential diagnosis in obscure nerve trouble and functional nutritional diseases than to put the patient's body to bed for the same time.

Ox Blood as a Remedy.—Blech (*Pharm. Zeit.*) recommends ox blood as a useful therapeutic agent. The blood is caught direct in an antiseptic vessel and beaten for a few minutes with a sterilized glass rod to prevent coagulation. It is then bottled into sterilized flasks. Certain commercial preparations consist of ox blood prepared in this way, to which a little whiskey and dried white of egg has been added. For internal use a little salt and pepper improve the taste, and boric acid (1:1,000) tends towards its preservation. This preparation is an excellent tonic and blood enricher; the dose is 15-30 gms., 4 to 6 times per diem, before meals. For obstinate ulcers the external application of a tampon of gauze, saturated with the preparation, is productive of highly beneficial results.

—According to the Montevideo correspondent of the *London Times*, the discovery has been made that a syndicate exists in that city which makes a practice of insuring the lives of poor people and afterward killing them for the insurance money. It is said that the syndicate has policies covering the sum of \$150,000, and that at least one American company has been affected.

—Brudenell Carter (*Phila. Med. Jour.*) has used acon solution 1 to 100 by subconjunctival injection to produce local anesthesia in ophthalmic practice, and finds it a non-poisonous local anesthetic of very prolonged action. It is also strongly antiseptic and keeps well in the dark. It is believed that its use will greatly facilitate the treatment of some of the more intractable inflammatory affections of the eye.

—A laborer on a roofed pier in the Eastern District of Brooklyn has presented, says the *Philadelphia Medical Journal*, an additional detail to the records of bone fractures. He was accidentally swept off his high perch by a canting piece of timber, and fell a distance of 18 feet, striking on his hands and knees on the floor of soft pine. The injuries which he sustained were a fracture in each leg above the knee, a broken kneecap, and grave internal injuries. The ragged end of the bone in the left thigh pierced the flesh and skin, and was forced a distance of an inch and a quarter into the plank. As the man rolled over, a two-inch section of the bone was snapped off and remained fast in the piece of timber. It yet remains uncertain what shall be done for the patient in the way of restoring the missing bone. It was necessary to use a chisel in removing the bone from the plank.

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EGBERT GUERNSEY, M.D., LL.D. ALFRED KIMBALL HILLS, M.D.

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The purest treasure mortal times afford
Is spotless reputation, that away
Men are but gilded loam or painted clay.—Shakespeare.

A PLEA FOR EXACTNESS IN THERAPEUTICS.

IT is impossible for one with any knowledge of the use of curative means to attend a meeting of physicians and listen to the differences of opinion in respect to therapeutic methods without being compelled to admit that, if these disagreements are well-founded, there is little use in attempting to treat patients with drugs at all.

It is no wonder that the majority have become "Christian Scientists."

The medical student and the layman who reads or listens to such statements could come to no other conclusion but that there is no consensus of opinion or exactness in therapeutics, and that the medical profession is "all at sea" in respect to the use of drugs as therapeutic agents. The medical profession has a great responsibility at this point. All will admit that there is more exactness in every other branch of medicine than in therapeutics, and it is to remedy this defect that we now appeal. The time was—and is now, to considerable extent—that the chief aim of drug therapeutics was to patch up, to gloss over, to ameliorate conditions in any way to suit the moment, regardless of consequences. Such practice is the cause of much of the therapeutic shiftlessness which accounts for present conditions and failures.

Anyone who has had to do with medical students knows how poorly equipped with drug weapons they are when they emerge from college. A few formulæ for use in common diseases is about the extent of their knowledge.

They know next to nothing of the physiological action of drugs, or when they should be exhibited in case of diseases; hence, the charlatanic manner in which much of the prescribing of drugs is made. No student should be graduated without a good knowledge of physiological materia medica, the science of drug action; then he will

have a foundation for the empiricism which is sure to follow, and he will not generalize from limited facts.

The selection of curative means ought to be as important as the diagnosis of the disease; but, practically, it is not, and we regret to admit that the best diagnosticians are often the worst prescribers.

Those who have made a proper study of drug effects will never propose to "throw medicine to the dogs," for they will have better use for it. Such study as we suggest will prevent practitioners from becoming attached to fads and antagonistic to drug uses. Many have become disgusted with drug prescribing because of the uncertainty of selection, and we do not wonder. Some have become sectarians because of massive and uncertain dosage; and all of us can but regret that there is not more exactness in therapeutic methods.

The physician of any experience knows well that if he is to succeed he must individualize his drugs and his dosage to meet his case. There are certain rules which must be followed, or the practice of medicine becomes a farce.

Why is it, for instance, that we observe such wonderful results with a certain drug in some cases of a particular disease, and in other cases of the same disease no results at all? This fact is evidence that something is wrong with our diagnosis, and that we have failed to match the genius of the drug with that of the diseased individual, and shows also that we should treat individuals, as well as diseases.

When physicians become familiar with higher therapeutics success will be so enhanced that laymen will not monopolize the bulk of ordinary practice as they are doing at present, because one must be an expert to understand it.

We cannot expect exactness in therapeutics unless we possess reliable and substantial reasons for the use of a drug, and feel sure that it fits the individual patient in hand. We think no reader will try to confute the statement that there is no drug that will cure every case of any given disease; hence, specifics are for individuals, and not for diseases. Quinine is not the sole specific in malarial fever; neither are mercury and potassium iodide the only remedies that will cure syphilis.

It is not an easy matter, we will admit, to adjust drugs to diseased conditions, and that is why we are demanding more thorough study by those who are to administer them, and it is sufficient argument that the inexperienced should not attempt it. There is no short road to exactness in prescribing drugs, and each one will have to work it out for themselves. The first step is the careful study of physiological effects of drugs upon human beings, in order to ascertain their finer shades of action; and with this knowledge it will be much easier to regulate the dosage, which must vary with different individuals; and the dose will also depend upon the result desired from its administration.

It is already recognized by many that the size of the dose is an important element in our consideration. If a certain result is desired we administer a larger dose; if

an opposite effect is the one we want a smaller dose is exhibited; and if this is done upon absolutely scientific grounds, there may be no doubt as to the result. What we want is a therapeutic revival, and great good to humanity would come from such a movement.

It would restore confidence in the physician, which has been lost through his own misgivings as to his ability; and we confidently assert that this is one of the main causes of the present chaotic state of general practice as it exists to-day. It is ignorance upon the lines we have indicated which is largely responsible.

THE ELIXIR OF LIFE.

IS the dream of the alchemist about to be realized, not perhaps to its fullest extent, but in so great a degree that human life can be prolonged far beyond its usual limits? A report comes from the Pasteur Institute in Paris that Professor Menchnikoff, the distinguished Russian savant, a name so well known in the scientific world as to be entitled to respect and the results of his experiments to a candid hearing, has discovered a new "Elixir of Life."

Professor Menchnikoff's idea is that he can so stimulate the blood corpuscles, in case of localized disease, by means of special serums, that they will arrest the decay of tissues, overcoming the poisonous influences in them, and bring them back to a normal condition.

But Professor Menchnikoff goes still further, and claims that these serums are not alone applicable to diseased conditions, but by a stimulation of the cells in old age the more active functions of the blood will be restored, with a consequent improvement of tissue and the lengthening to an unknown degree the span of human life. The idea has been considered so important that an entire section of the Pasteur Institute, which has welcomed the eminent biologist for many years, and where much of his work has been done, has been utilized in the work of finding the specific serum for each organ, with, it is said, astonishing results.

We are indebted to a correspondent of the *London Morning Post* for an account of the discovery. "M. Bordot, one of the Professor's pupils in 1898, published the results of a curious experiment, which consisted of injecting the blood of a rabbit into a guinea-pig. Later he injected the blood of the guinea-pig into a rabbit and the latter died. Professor Menchnikoff sought the causes of the phenomenon and was convinced that the blood of the guinea-pig injected into the rabbit or other vertebrate animal elaborates the poison that weakens the red globules of the blood and makes them the prey of the phagocytes. Starting from this fact, that the poison elaborated in the guinea-pig is fatal in large doses, Professor Menchnikoff argues that the action in small doses must be stimulating. On this is based the action of all medicines, such as strychnine and arsenic. He therefore began to inject into rabbits feeble solutions of previously injected guinea-pig's blood. A cubic millimeter of the blood of the rabbits thus treated

contained before the injections 3,000,000 red globules. In three or four days the number increased to 8,000,000."

It will be seen that Professor Menchnikoff's recent investigations are but a continuation of his revelations of the function of phagocytes, now generally accepted by physiologists under the name of the "Phagocytosis Theory of Menchnikoff." The theory of their function is founded upon the fact that the amaboid leucocytes are known to inject foreign particles with which they come in contact. The leucocytes, white globule or phagocytes, by virtue of their mobility, are found everywhere—in the blood, in all the organs and in all parts of the body. Their power of making amaboid movements has given them the name of the "wandering cells." All sorts of bodies that pass within the reach of the leucocytes are seized and incorporated by them, provided they are small and inert enough to be enveloped. The nature of the body is of but little import. Whatever it may be it is swallowed and quickly inclosed within the mass of the leucocyte and submitted to the dissolving action of its juices, or, in a way, eaten. Hence the name "phagocyte," or devouring cell, given to the enveloping white globule, and phagocytosis to the disease.

These "wandering" cells are the scavengers of the human body, the means which nature employs to protect the system against the ravages of bacteria and microbes, the seeds of local and general disease which, but for these all-devouring "wandering cells," might prove fatal. The human system in all its parts is a battle ground on which a fierce war is constantly in action. The phagocytes or leucocytes (white cells) are among the most important defences of life, eating up bacteria and microbes, and making the current of life pure and strong. They help to maintain the normal composition of the blood plasma as to proteid.

As to the origin of the leucocytes, it is known that they increase in number, while in the circulation undergoing multiplication by karyokinesis; but the greater number are probably produced in the lymph-glands and in the lymphoid tissue of the body, whence they get into the lymph stream, and virtually are brought into the blood.

In infectious diseases M. Menchnikoff has shown the protective part performed by the leucocytary phagocytes. The white globules, as seen under the microscope, rush to meet the bacterides of inflammation that are introduced through any wound, absorb them and render them powerless to harm. It may sometimes occur that the poison secreted by a microbe will paralyze and kill; and microbes, unless care has been taken by the inoculation of a virus, at first attenuated and afterward gradually increasing in virulence, to create an immunity in the phagocyte, to make it refractory to the poison and capable of swallowing the toxic bacterium without suffering from it. Sometimes the leucocytes are poisoned by the bacteria they have incorporated when they undergo fatty degeneration and become pus globules.

It will be seen that the recent experiments of Menchnikoff, from which he hopes to obtain such far-reaching re-

sults, have been simply the evolution of previous ideas carried out along the same lines. Is it not only possible but even probable, that life may be still further prolonged through the careful study of its laws reaching the causes of change and decay?

IS CANCER OF VEGETABLE ORIGIN?

AN alleged discovery of considerable interest bearing upon the etiology of cancer is announced by Dr. A. Cartaz, in a recent communication to *La Nature*. He states that Dr. Fiessinger, a French country physician, who has been investigating this disease for many years, early became convinced that it is highly contagious, being transmitted in families, and even through the medium of infected houses. He also went so far as to maintain that it is especially frequent in sylvan districts, and that the majority of its victims are found among gamekeepers, foresters, orchardists, and other dwellers and laborers in the woods, rather than in villages and large towns.

Following out his theory, M. Fiessinger endeavored to discover the insect which was the carrier of the parasitic cancer-germ—for such a germ, of course, must exist. It occurred to him that the common canker (*carcinoma*, as it is technically called) on the bark of trees, most nearly resembled the malignant neoplasms so fatal to animals and man. These morbid growths appear on full-grown trees as the result of a wound, however inflicted, and it is a fact well known to woodsmen that they are decidedly contagious, forest-trees thus affected being usually found grouped together. Such excrescences have very much the appearance of cancer, and run in all respects a similar course. Treatment in both cases is the same—lopping off the diseased branches, and, in man, excision of the infected tissues.

A case in which the contagion in question was apparently conveyed from the vegetable kingdom to man is developed at the seat of injury, recurred after operation, while pruning a cankered apple tree, chanced to cut himself on the lip with his knife. Before long an epithelioma developed at the seat of injury, recurred after operation, and speedily proved fatal.

From close study of arboreal cancer, M. Fiessinger concluded that it originates in a penetration of the bark by various species of fungi, one of which is known as *nectria ditissima*. The question next arose: Does human cancer contain spores, and, if so, may they not be the same as those of the disease in trees? There seemed nothing to forbid the supposition, and quite lately it was fully confirmed by the independent researches of another. The microbe germ of human cancer, discovered by M. Bra. Fiessinger's idea of the contagious nature of cancer—an idea already beginning to gain ground among pathologists—was thus proved to be correct. But this was not all. Bra's cancer-germ, when carefully examined, turned out to be identical with *nectria ditissima*, the above-mentioned parasite of tree-canker. Inoculation of animals with this later organism gave rise to an ulcer,

which gradually changed into genuine carcinoma. And, conversely, Bra inserted cultures from human and animal cancer-germs (it mattered not which) beneath the bark of trees, and produced the cankerous lesions, in which were found spores of the same *nectria ditissima*.

These observations are said to have been completely verified by subsequent investigators. If correctly reported, they establish an intimate etiological connection between animal and vegetable cancer. M. Fiessinger's notion that the disease has the same origin in all cases, and that only dwellers in woods and gardens are exposed to the primary infection, is far from being borne out by the health statistics of large cities. Yet he is certainly to be congratulated on the net results of his ingenuity and perseverance.

SCIENTIFIC CONGRESS.

SEVERAL societies were in session at the recent scientific congress in New Haven. We glean from the subjects discussed a few items, not specially new, but still of interest to the profession. Professor Atwater gave the result of experiments in which the nutritive action of alcohol is compared with that of sugar, starch and other ingredients in ordinary food. These experiments, he says, show that alcohol, when taken in moderate quantities, resembles fat, sugar and starch, inasmuch, like them, it cannot yield tissues, but does yield energy. It cannot be used to build up the body machine or repair it when worn out by constant use, but it can and does serve for food. Professor Atwater reached the conclusion, now generally obtained in scientific and observing circles, that alcohol is an excellent thing for young people, in good health, to let alone, but as a food in special cases alcohol answers many useful purposes.

Dr. E. W. Scripture, of Yale, described a new anesthetic produced by applying a sinusoidal current of electricity of high frequency longitudinally along the nerves. The instrument used is known as the Kennelly attenuator and is run at a very high rate of speed. Dr. Scripture is still working on his experiments, and feels assured that at an early day to perfect his machinery for producing anesthesia in an entirely satisfactory form by electricity without danger.

THE retirement of Surgeon-General Tyson, on account of age, from the marine service with the full rank of Rear Admiral, removes from active medical duty one of the most efficient medical officers in the medical department of the Army or Navy. Rear Admiral Tyson entered the service as assistant surgeon in 1863, and was with Admiral Farragut for two years. The various positions held by the Admiral have been filled with marked ability, and on his retirement from office it must be with a feeling of pride and gratification that he has brought the medical corps and the naval hospitals of his country to such a high state of perfection. Admiral Tyson will make his home in New York, his native State.

ALCOHOLIC SERUM.

The attention of the profession has been directed for many years to some remedy, not injurious, which will not only act as a substitute upon the nervous system for the stimulating effects of alcohol in its various forms, but do away with that intense craving for it, which the victim of alcohol often finds irresistible. We are indebted to the *London Lancet* for an abstract of an exceedingly interesting paper read in December of last year before the Academy of Medicine, in Paris, by MM. Broca, Sapelir and Thibaut, men well known in the scientific world, on the discovery of a so-called anti-alcoholic serum, which M. Broca and his colleagues propose to call "anti-ethylene." The paper has been referred by the Academy to a special committee for further and more minute investigation, which will report at an early day.

The three observers in question started from the principle that in alcoholic intoxication, as in morphia intoxication, there is a preliminary period which is characterized by gradual toleration of the drug and a feeling of desire for the poison. On the other hand, it is well known that certain organic poisons, more especially those produced by microbes, form in the organism anti-toxins, which represent the elements of resistance which the organism offers to infection. These anti-toxins, injected into another organism, place that organism in a state of being able to resist the corresponding poison.

The observers therefore determined to make research on these principles into the action of alcohol. They produced tolerance to alcohol in the horse by giving it by the mouth, and then found that the serum of this horse, injected into other animals which had been made tolerant and fond of alcohol, produced in the animals in question such a distaste to alcohol that they preferred to give up both eating and drinking rather than continue to take alcohol. The injection of this serum in large doses has produced neither in animals nor man any unpleasant symptoms, either local or general.

Clinical experiments made upon drunkards had given most interesting and somewhat inconceivable results. The drunkard treated with anti-ethylene lost all his taste for alcohol; he no longer cared for brandy, rum, or absinthe, but he preserved a liking for wine, and his appetite and strength returned. Up to the present anti-ethylene seems powerless to make any improvement in the organic alterations produced by the action of alcohol.

The medical profession in Pennsylvania is in an uproar over the detection of fraud in the State examination for the license to practice. It was done by collusion between a student and the office where the questions were printed. Interesting developments are promised.

The Montefiore Home has established a sanitarium for the treatment of phthisis cases, on its farm at Bedford Station, Westchester County, New York, at an altitude of 475 ft. This institution shows by its report that it is doing good work.

MARK TWAIN ON CHRISTIAN SCIENCE.

THE great humorist in a recent magazine article gave his experience of Christian Science treatment in a severe injury he received while traveling in Italy. During the treatment Mark Twain, always eager to learn, had surgical discussions with his physician, seeking earnestly to get at the real philosophy of the treatment, of which he gives a graphic specimen.

At that point the Stubenmädchen trod on the cat's tail, and the cat let fly a frenzy of cat-profanity. I asked, with caution:

"Is a cat's opinion about pain valuable?"

"A cat has no opinion; opinions proceed from mind only; the lower animals, being eternally perishable, have not been granted mind; without mind, opinion is impossible."

"She merely imagined she felt a pain—the cat?"

"She cannot imagine a pain, for imagination is an effect of mind; without mind there is no imagination. A cat has no imagination."

"Then she had a real pain?"

"I have already told you there is no such thing as real pain."

"It is strange and interesting. I do wonder what was the matter with the cat. Because, there being no such thing as real pain, and she not being able to imagine an imaginary one, it would seem that God in his pity has compensated the cat with some kind of a mysterious emotion usable when her tail is trodden on which for the moment joins cat and Christian in one common brotherhood of —"

She broke in with an irritated—

"Peace! The cat feels nothing, the Christian feels nothing. Your empty and foolish imaginings are profanation and blasphemy, and can do you an injury."

Magnetism of the Earth.

DR. HENRY A. ROWLAND, professor of physics, Johns Hopkins University, claims to have made a discovery which, if true, will be of the greatest importance to the scientific world. The discovery gives an explanation of the cause of the magnetism of the earth. Professor Rowland shows by experiment that magnetism is developed in a rapidly revolving body and is convinced that the principle holds good for the earth and other heavenly bodies as they revolve through space. The experiments are only in their infancy, but have proved so satisfactory that they will be continued.

Dr. Schenk, professor at the University of Vienna, who published a book in which he asserted that, after twenty years of experiment, he had discovered the secret of exercising an influence over animals and men so as to fix the sex of offspring, has received permission from the Minister of the Interior to retire on a pension, as the result of a demand by the medical faculty for his dismissal for the alleged frivolous publication of scientific matter constituting a form of self-advertisement.

HEADACHES DUE TO EYE STRAIN.

JAMES COLE HANCOCK sums up a paper on the above subject (*Med. Record*, November 4, 1899), as follows:

The conditions bringing about a so-called "eye headache" appear to be an undue stimulation of the nerve centers of nerves supplying the intrinsic and extrinsic muscles of the eye, causing a reflex vasomotor action referred to the meninges and producing congestion.

It has been suggested that confusion of images also plays an important part in the causation of these headaches, and that there is no known instance in which they have followed excessive use of other than ocular muscles. The confusion of images may be an important contributing cause, but the muscular reflex probably plays the most important part. Although continued muscular exertion in general does not cause headache, it is probable that excessive and continued contraction of any muscle supplied by cranial nerves would do so. Obviously, except in the case of the ocular muscles, it is difficult to gather evidence in support of this theory.

In all the conditions mentioned above, even including those due to purely reflex causes through the nervous system—by way of exclusion, a thorough examination of the eyes should be insisted upon, and this can be made only when the ciliary muscle is completely paralyzed.

In hypermetropia glasses should be worn for reading and other close work only, unless distant vision is impaired; in myopia for distance when present in marked degree, and for reading when the book is habitually held nearer the face than thirteen inches.

For muscular insufficiency prisms are worn and the weak muscles exercised. Operations are often necessary.

In astigmatism, glasses should be worn constantly, for here a complete correction, even temporarily, is quite impossible.

THE diabolical outrage of hanging in effigy the superintendent of one of our large city hospitals, was promptly met by the Commissioner of Charities in the summary dismissal of the entire House Staff, which in a body made themselves responsible for the action. This just punishment should have a good influence in stopping such horse-play, particularly in institutions conducted for the sick and dying. We regret to say that members of House Staffs generally have little appreciation of the dignity of the position they occupy, or the knowledge which may be obtained from such service. When a student graduates in medicine, he should take on true manhood, and leave his boyish pranks behind. If he fails in his conduct, the sooner he is made aware of the fact, the better for all concerned.

W. B. Saunders will issue early in February the American Year Book of Medicine and Surgery in two volumes, volume 1 treating of General Medicine, and volume 2 of General Surgery. The volumes can be had separately, price \$3.00 each.

A SINGLE REQUISITION FOR MEDICINE.

THE *Army and Navy Journal* gives the items of a single requisition of the medical officer at Manila for medical and surgical supplies: 7,500,000 grains of quinine, 20 tons of Epsom salts, 5,000 bottles of paregoric, 3,000 bottles of iodoform dressing, 8,000 bottles of collodium, 5,000 bottles of chloroform, 2,500 tins of ether, 16,000 bottles of bismuth, 7,000 bottles of alcohol, 10,000 quart bottles of whisky, and 12,000 yards of plaster. There were also 600,000 compound cathartic pills, 1,000,000 tablets of strychnine, 1,600,000 tablets of sodium salicylate, 625,000 tablets of salol. Of surgical dressings there were 50,000 yards of plain gauze, 5,000 yards of unbleached muslin, 50,000 sterilized bandages, 4,000 pounds of absorbent cotton, and 96,000 roller bandages.

THE tuberculous test used by the faculty of the Ohio Agricultural Experiment Station reveals the fact that in cattle the tubercle bacillus first obtains its foothold in some of the minor glands, and may exist there for years before any other organ is affected, and it is only in advanced cases the lungs become diseased. So long as the injection is localized in one or two organs there is no evidence that any unwholesome effect is being produced in the beast, and the inspectors pass the meat as sound.

Tuberculosis, it will be seen from these facts, is a very different complaint from pleuro-pneumonia or Texas fever, in which from the first instant the whole system is saturated with fever.

THE Secretary of War, in his recent report, says "the significance of the annual death rate from disease in the Philippines (17.20 per 1,000) may be better appreciated by comparison with the rate in some of our well-known American cities. The death rate in Washington is 20.74, in Boston 20.09, in San Francisco 19.41, in New York 19.28, and in Baltimore 19.10." This comparison, of course, is unintentionally misleading, as our army in the Philippines are in the prime of life, all of them picked men, while the death rate in the cities mentioned includes the entire population, infants and old people, among whom the fatality of disease is much the greatest.

The New York Academy of Medicine begins the new year free from debt, with its club house valued at \$284,426.59, and a library, etc., fund of \$85,059.44.

This is a showing upon which the Fellows may congratulate themselves. In addition to the above the Academy owns a superb medical library, open to the public on liberal terms. Of course such a library is not used by laymen to much extent, but it is of great service to physicians, and its use is not restricted to members. The income each year from the fund is used in the purchase of books. This institution is an honor to the profession and is worthy the membership of all who are eligible.

ON THE USE OF HYDROTHERAPEUTICS.

Dr. Jas. J. Putnam contributes an interesting paper to the Boston Medical and Surgical Journal on this subject.

In conclusion he gives the following points on which he thinks physicians hold fallacious opinions:

(1) Is a "shock," as from sudden application of cold water, useful or objectionable? The latter view is often maintained, both by patients and physicians, but the former is correct, provided only that the shock is proportioned to the habits, and the capacity for reaction. Patients are apt to dislike the "shock" of cold water, and if they are feeble or nervous it may, if severe, frighten or fatigue them. For this reason when an unfamiliar method is first used the application should be as warm as 85 degrees to 90 degrees. This will feel cold if the skin has previously been warmed to 100 degrees or higher. On the other hand, the common practice of letting cold water run gradually into a previously warm bath, so that the temperature is slowly lowered and "shock" avoided, is an objectionable one, and much less likely to be followed by a good reaction than a more sudden change, especially if the latter is associated with smart friction, as in the case of the drip-sheet or forcible cold affusion given by another person. It is not easy for a patient to make a thoroughly satisfactory cold application unaided, except by an immersion-bath, since otherwise, at the best, only half the body can be bathed and rubbed at one time. The immersion-bath at low enough temperatures to be thoroughly stimulating is very refreshing to vigorous persons who are thoroughly habituated to it, but less safe for feeble persons. If the latter must take their bath unaided, rubbing with a large, dripping-wet towel is perhaps the best method.

(2) Hot baths, at temperatures considerably above that of the body, have primary effects similar to those exerted by cold baths, but secondary reactions are liable to occur, leaving the skin pale and cool and the arterial tone low, and, moreover, the skin is for a time after them abnormally sensitive to slight cold. It is risky, on these accounts, to take hot baths at bedtime, because the primary heat of the skin leads the patient to underestimate the amount of clothing which will be required later and he may wake to find himself chilled. These dangers are diminished if sufficient time is taken to allow of complete cooling before going to bed, or if the hot bath is followed by a dashing or rubbing with cold water. Of course there are cases, however, where the sedative action of a prolonged warm bath is very useful. - Massage given during warm baths is useful for elderly people with arterio-sclerosis—(Jacobi).

(3) It is a mistake to suppose that shivering is necessarily a sign that the body is becoming chilled to an objectionable degree. Shivering frequently occurs when one rises from bed on a cold morning, and yet wholly disappears, together with the sense of coldness that accompanies it, after a plunge into very cold water. Even blueness of the finger-tips is not necessarily a danger sign, since it is usually due to local changes in the

cutaneous circulation, and not to weakness of the heart.

(4) Children do not require as low temperature as adults to develop such a degree of reaction as can be expected from them, and do not stand severe cold as well.

(5) Where the reaction on the part of the vasomotor system is to be limited to a small portion of the body, lower temperatures and more prolonged applications can be used than where the whole surface of the body is to be exposed.

(6) Where drip-sheets, or sheet-baths, or wet packs are to be used, coarse linen sheets or damask tablecloths are better than cotton sheets, as being more absorbent and affording better surfaces for friction.

(7) The mechanical impact of a stream of water delivered under high pressure in the form of a douche adds greatly to the stimulant effect, and insures a better reaction. Nevertheless, a feeble patient has to be accustomed gradually to high pressures, as to low temperatures, and at first relatively short applications are necessary. In a well-appointed institution greater and readier variability, and thus better results, can be obtained than in a private house.

(8) Especial caution is necessary in applying baths, tending to produce much reaction, to elderly persons, or to any persons with brittle arteries or with disease of the heart.

—Professional Convenience.—Patient: I say, doctor, just what is this "grip" anyway?

Doctor: Why, my good fellow, that's the name we doctors have for everything nowadays but appendicitis.

Patient: Ah! and what is appendicitis?

Doctor: Why, that's the name we have for everything but the "grip."—Judge.

—A little anecdote of Virchow is going the rounds on the occasion of his 78th birthday, October 18. He was examining a medical student who had remained dumb to question after question, until asked: "Is regeneration of the brain possible?" When he energetically replied in the affirmative. "Well, then," Virchow observed, "there is hope for you yet."

—The mere fact that the beneficiary of a decedent was his medical adviser, the third appellant division of the Supreme Court of New York holds, in re. Cornell's will, does not raise any presumption of undue influence, at least in a case where the beneficiary is not present at the transaction, and the will is drawn from instructions given by the testator himself.

—The memorial erected to young Dr. Mueller, the victim of the laboratory plague at Vienna last year, consists of a bronze bust on a marble pedestal, with relief representing Marcus Curtius, the Roman hero. It is erected in the eighth court of the General Hospital, near Nothnagel's clinic, in which he was an assistant. Nothnagel delivered an address at the unveiling of the statue.

Michael Foster, of London, will deliver the next course of Lane Medical Lectures at San Francisco in 1900.

BIBLIOGRAPHICAL.

THE SURGICAL DISEASES OF THE GENITO-URINARY TRACT, VENEREAL AND SEXUAL DISEASES. A Text-book for Students and Practitioners. By G. Frank Lydston, M.D., Professor of the Surgical Diseases of the Genito-Urinary Organs and Syphilology in the Medical Department of the State University of Illinois; Professor of Criminal Anthropology in the Kent College of Law; Surgeon-in-Chief of the Genito-Urinary Department of the West Side Dispensary; Fellow of the American Academy of Political and Social Science; Delegate from the United States to the International Congress for the Prevention of Syphilis and the Venereal Diseases, held at Brussels, Belgium, September 5, 1899, etc. Illustrated with 233 engravings; $6\frac{1}{2} \times 9\frac{1}{4}$ inches. Pages xvi—1024. Extra cloth, \$5.00 net; sheep or half-Russia, \$5.75 net. The F. A. Davis Co., publishers, 1914-16 Cherry street, Philadelphia.

The versatile author says, in his preface, that he has embraced this opportunity for airing a few of his heresies, in juxtaposition with as much of the accepted and standard teachings, as it is practicable to present in a work chiefly designed for the student and the general practitioner, rather than the specialist, and it has been his endeavor to give a practical survey of his subject upon lines marked out in his course of lectures. The text is distinctly stated, and easily read, both of which are important points, particularly in a text-book, if it is to meet the popular demand, and it is not easy to attain these ends. We have no hesitation in saying that Dr. Lydston possesses the qualities required in a successful writer, and his volume before us must become standard.

AN AMERICAN TEXT BOOK OF SURGERY, FOR PRACTITIONERS AND STUDENTS. Edited by William W. Keen, M.D., LL.D., and J. William White, M.D., Ph.D. Third Edition, thoroughly revised. 1899. Philadelphia: W. B. Saunders, pp. 1,228, large octavo; cloth, \$7.

It is sufficient endorsement of this superb work that 29,000 copies of it have been sold, and that it has been adopted as a text-book by over 100 medical colleges. The present edition introduces many new topics, including orrho- (serum) therapy; leucocytosis, post-operative insanity; the use of dry heat at high temperatures; Krönlein's method of locating the cerebral fissures; Hoffa's and Lorenz's operations for congenital dislocations of the hip; Alli's researches on dislocations of the hip-joint; lumbar puncture; the forcible reposition of the spine in Pott's disease; the treatment of exophthalmic goiter; the surgery of typhoid fever; gastrectomy and other operations on the stomach; several new methods of operating upon the intestines; the use of Kelly's rectal specula; the surgery of the ureter; Schleich's infiltration method and the use of eucaïne for local anesthesia; Krause's method of skin-grafting; the newer methods of disinfecting the hands; the use of gloves, etc. Many sections have been revised and enlarged, and the text has been generally changed and improved, making it necessary for the up-to-date surgeon to possess this edition. There are also several new illustrations.

The work has been done by a corps of authors selected for special fitness in the respective fields.

Mr. Saunders deserves great credit for his efforts to make such a work possible, and for the physical part which is in the printer's best art.

DUDLEY'S GYNECOLOGY. A Treatise on the Principles and Practice of Gynecology. By E. C. Dudley, A.M., M.D., Professor of Gynecology in the Northwestern University Medical School, Chicago. New (2d) edition. In one very handsome octavo volume of 717 pages, with 453 engravings. Cloth, \$5, net. Lea Brothers.

The author has succeeded admirably in his aim to cover the entire subject from a practical standpoint, and yet to avoid all speculative and theoretical views. The arrangement is primarily pathological and secondarily regional, a plan which gives the student and practitioner all the obvious advantages derived from the natural method of understanding first the disease itself, and thereby its effects in various organs and their treatment. The information conveyed by the book is equally modern and up to date. The new edition is the result of a searching revision, visible not alone on every page, but also in the addition of seventy-eight pages, thirty-one new engravings and six new full-page plates. The illustrations form a special feature, not only in their abundance and originality, but also in their teaching power. Colors have been freely used in the text pictures as well as in the plates. The volume is convenient in size, and its price is fully represented in its value.

LECTURES UPON THE PRINCIPLES OF SURGERY, DELIVERED AT THE UNIVERSITY OF MICHIGAN. By Chas. B. Nancrede, A.M., M.D., LL.D., Professor of Surgery and of Clinical Surgery; Emeritus Professor of General and Orthopedic Surgery, Philadelphia Polyclinic; Senior Vice-President of the American Surgical Association; Corresponding Member of the Royal Academy of Medicine of Rome; Member of the American Academy of Medicine; late Major and Chief Surgeon, U. S. V., etc. With an Appendix containing a résumé of the principal views held concerning inflammation, by Wm. A. Spitzley, D.D., M.D., Senior Assistant in Surgery, University of Michigan. Illustrated. Philadelphia: W. B. Saunders, 1899; pp. 398; \$2.50; octavo.

This is the best book on the "Principles of Surgery" for the under-graduate that we have yet seen. The text is in pure, readable English, not only easily understood, but fascinatingly stated, so that one does not tire of the subject in reading. It is sufficiently comprehensive, and is not burdened with obsolete teachings of the past. We have no hesitation in commending this book, particularly to students, and it will be found useful to others. Mr. Saunders has done his part as usual.

ESSENTIALS OF PHYSICAL DIAGNOSIS OF THE THORAX. By Arthur M. Corwin, A.M., M.D., Instructor of Physical Diagnosis in Rush Medical College; Attending Physician to the Central Free Dispensary; Department of Rhinology, Laryngology and Diseases of the Chest. Third Edition, revised, and enlarged. Philadelphia: W. B. Saunders, 1899, pp. 220, 12mo.

The gist of the science of physical diagnosis as applied to the thorax, has been arranged systematically for the use of students. The fact that a third edition has been called for, is evidence that the work has been appreciated.

We are surprised to find that no mention is made of the Phonendoscope.

The book will be found useful.

AN ATLAS OF THE BACTERIA PATHOGENIC IN MAN, WITH DESCRIPTIONS OF THEIR MORPHOLOGY AND MODES OF MICROSCOPIC EXAMINATION. By Samuel G. Shattuck, F.R.C.S., joint lecturer on Pathology and Bacteriology, St. Thomas Medical School, London; Pathological Curator of the Museum of the Royal College of Surgeons, London, with an introductory chapter on Bacteriology; Its Practical Value to the General Practitioner. By W. Wayne Babcock, M.D., Pathologist to the Kensington Hospital for Women; Clinical Pathologist to the Medico-Chirurgical Hospital; Demonstrator of Pathology and Bacteriology in the Medico-Chirurgical College of Philadelphia. Sixteen full-page colored plates. E. B. Treat & Co., New York; pp. 82; 12mo; \$1.

This Atlas was originally published in the "International Medical Annual" in two sections, one in the year 1898, the other in 1899, and in compliance with requests, the publishers have reprinted the articles in book-form, greatly to the convenience of those who desire to use it. The text is succinct and practical, and the plates are works of art. The book will be found sufficient for most purposes of the general practitioner.

HEMORRHOIDS AND OTHER NON-MALIGNANT RECTAL DISEASES; DIAGNOSIS AND TREATMENT. By W. P. Agnew, M.D. Fourth edition. Pacific Press Publishing Co., San Francisco, Cal., 1899; pp. 214; octavo.

The general practitioner, with this book in hand, will not hesitate to treat piles by means of carbolic acid injections, as the author has pointed out in an easily-understood and practical way his own observations and experience in applying what he believes to be a "greatly superior method." He says that all pile tumors are alike amenable to this treatment, regardless of anything, and in ten years has never produced an alarming symptom, secondary hemorrhage, or sloughing, other than the pile itself. "I have yet to report my first failure." The technique of the operation and the management of the case is clearly set forth. Non-malignant rectal affections are concisely and practically considered, with a view to aiding the general practitioner to compete with "the itinerant and advertising local specialist." The general practitioner will make no mistake in adding this little volume to his library, providing he has to do with such lesions.

NOTES ON THE MODERN TREATMENT OF FRACTURES. By John B. Roberts, A.M., M.D., Professor of Surgery in the Philadelphia Polyclinic; Mütter Lecturer in Surgical Pathology of the College of Physicians of Philadelphia. With thirty-nine illustrations. New York: D. Appleton & Company, 1899; pp. 162; octavo.

The author, in his preface, well says that "no injuries require more careful and judicious treatment than fractures; and in no branch of surgical therapeutics is the exercise of common-sense followed by more satisfactory results." There is no doubt that routine treatment has been the cause of many a disaster, and that strict individualization of each case is as necessary as in the treatment of any lesion with drugs. The volume consists of essays presented by the author at different times, revised to accord with present views. Dr. Roberts is an independent thinker, a thorough searcher for truth, an able surgeon, and no doubt his little work will meet with a hearty reception.

PROGRESSIVE MEDICINE. Volume IV. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D. Octavo, handsomely bound in cloth, 398 pages, 51 engravings and 5 plates. Lea Brothers & Co., Philadelphia and New York.

These volumes differ in an essential particular from the year books and annuals, inasmuch as the essays are in narrative form, and the information gives the outcome of the author's personal experience, and may, therefore, be considered as original contributions of a very practical character, in which the chaff has been winnowed from the grain. The present volume contains articles on diseases of the digestive track, genito-urinary diseases in the male, fractures, dislocations, amputations, etc.; diseases of the kidneys, physiology, anatomy, hygiene, practical therapeutics, etc.

LEA'S SERIES OF POCKET TEXT-BOOKS. Edited by B. B. Gallaudet, M.D.

COLLINS & RUCKWELL'S PHYSIOLOGY. In one handsome 12mo volume of 316 pages. With 153 illustrations. Cloth, \$1.50, net.

This volume covers a much larger field than is usual in the smaller works of physiology. In each section, in addition to the purely physiological aspects, pertinent histological considerations are discussed, such as those of the cell in general, and of the neurons in the nervous system, and whenever practicable the application of physiological principles is also illustrated.

Nichols & Vale's Histology and Pathology is the second of Lea's series of pocket text-books of the same size as the preceding volume. The writers have been very successful in presenting the essential facts in relation to the normal and pathological anatomy and histology of man in a systematic and easy way.

The part on normal histology is written entirely by Dr. John Benjamin Nichols, and that on pathology by Dr. Frank Palmer Vale.

CHRISTIAN SCIENCE. An exposition of Mrs. Eddy's wonderful discovery, including its legal aspect. A plea for children and other helpless sick. By William A. Purrington. Price \$1.00. New York: E. B. Treat & Co., 1900.

The author has gathered in this little volume several important papers from the *North American Review*, the *Medical Record*, the *New York Daily Sun*, and other journals, expounding the dangerous teachings of Christian Science and the theory and limitation of medical legislation. The papers have not been altered from their original form.

REFRACTION AND HOW TO REFRACT. Including sections from optics, retinoscopy, the fitting of eye glasses, etc. By James Thorington, A.M., M.D. Two hundred illustrations, thirteen of which are colored. Octavo, 301 pages. Cloth, \$1.50. P. Blakiston's Son & Co., Philadelphia.

It is needless to say that in the hands of so eminent a teacher as Prof. Thorington the work is well done and will prove of great value, especially to the general physician.

BOTANICAL MATERIA MEDICA AND PHARMACOLOGY. DRUGS CONSIDERED FROM A BOTANICAL, PHARMACEUTICAL, PHYSIOLOGICAL, THERAPEUTICAL, AND TOXICOLOGICAL STANDPOINT. By S. H. Aurand, M.D. Chicago: P. H. Mallen & Co., 1899; pp. 406; octavo.

In this book the author has arranged and compiled in condensed form the principal practical points of over one hundred of the more useful vegetable drugs of the *Materia Medica*. The object has been to make the text convenient for ready reference.

TUBERCULOSIS OR CONSUMPTION. By H. H. Spiers, M.D., Ravenna, Ohio; pp. 94, paper covers.

The author of this little brochure does not agree with established views on this subject, and claims that the death-rate is in direct ratio to the suspension of atmospheric influence.

A milk-diet and out-door exercise are his remedies—the bicycle a preventive.

Copies may be had by addressing the author.

CORRESPONDENCE.

TUBERCULOSIS AND INSOMNIA.

Concerning the value of the oil extracted from the livers of the cod (*Gadus morrhua*) it is no longer necessary to enter upon any proof. No matter what theory of tuberculosis may be held by the practitioner, no matter what course of treatment is in consequence followed, there exists no doubt of the value of pure cod-liver oil as a tissue builder for the repair of the waste which consumption implies; it is a recognized adjunct to any and all remedies which may be exhibited for the treatment of this serious disease. The only points which need attention now in the discussion of cod-liver oil are those which are involved in the consideration of its tolerability by the palate and the stomach. The following concise case reports touch upon this and one other point, and are presented for their interest in elucidating the matters at issue. After a careful examination of several oil products, the pure oil itself being repugnant to the palate in two cases and not retained by the stomach in the third, the treatment settled on the use of the Waterbury Metabolized Oil. This is a natural oil which has been subjected to treatment, producing slowly but permanently a true chemical union of the various ingredients. It consists of the four following ingredients in 25-per-cent. parts, namely, metabolized oil, hematic hypophosphites compound, malt extract, and aromatics, including a sufficiency of wild cherry to give a pronounced flavor. The metabolism of the oil is accomplished by a dual process, first the addition of pancreas and later the addition of a ferment derived from the spleen.

Case I.—J. F., aged 63, male. Tuberculosis of probably one year's course, solidification of lower third of left lung, less strongly marked affection of right lung, sputum characteristically tuberculous, pulse reedy and rapid, night sweats, great distress at night and inability to get to sleep. Exhibited cod liver oil metabolized (Waterbury) after failing to conquer the palate repugnance to unmodified oil; doses, one tablespoonful three times a day after meals, after one week increased by the addition of a fourth tablespoonful at night. Increase of weight: first week one pound, second week three pounds, third week four pounds, and succeeding weeks from three to

four pounds, until the total increase of about 25 pounds was reached and held. The symptoms of inability to sleep were met by the exhibition of Chloretone (Parke, Davis & Co.) at first in doses of 9 grains in tablets, but reduced later to 3 grains. This produced comfortable sleep and absence of nocturnal cough, the action of the heart was not depressed, and the digestive functions were not interfered with.

Case II.—S. B., aged 52, female. Tuberculosis of gradual development after the menopause. Lung conditions sagittally more pronounced than in the preceding case, other symptoms identical. In addition to positive medication the patient was placed on Waterbury metabolized oil and chloretone in 3-grain doses. Weight increased in seven weeks from 109 pounds to 141 pounds, and during the use of the oil, which has been continued to the present, the body weight has remained quite constantly just under 140 pounds. The chloretone was continued until the habit of sleep was fully established in about three weeks; since that time it has been administered but once a week, and then only as a precautionary measure.

Case III.—S. P. A., aged 27, male. This was a most interesting case, because of the clearly defined tubercular diathesis and very bad family history. This young man shortly after maturity developed consumption, and when he came under this treatment presented all the classical symptoms in the highest degree. His stomach would not retain unmodified oil, and a great repugnance to it was manifested. Placed under Waterbury's oil the difficulty vanished, and a complete tolerance was shown from the first. The dose in this case was a wineglassful four times a day. In the first week a checking of the loss of weight was seen; after the second week an actual gain was noted, which has continued steadily, with much better general condition. A very great insomnia existing, the patient was placed under nightly doses of chloretone, at first 15 grains, until it was observed that the hypnotic effect followed within an hour; the dose was then gradually reduced to 3 grains, and it is expected that in no long time the dosage will be susceptible of reduction to a single precautionary tablet at weekly intervals.

The foregoing cases indicate a wide sphere of usefulness for Waterbury's metabolized oil and chloretone in conjunction.

A. K. P. HARVEY, M.D.

Somersworth, N. H.

THE TREATMENT OF SEASICKNESS.

I have noticed in the *Journal of the Amer. Med. Association* of March 25, 1899, a paper by Dr. Taylor concerning the treatment of seasickness. My own experience while surgeon on one of the largest lines of emigrant steamers may be worth while recording in this connection. To begin with, the recommendation for calomel and saline purging before going to sea would be enough to keep many people on land. To go on board ship deliberately prepared for something out of the usual order is to invite thoughts of seasickness. Afloat or ashore one should always endeavor to be in good health, and nothing more than this is required to enjoy a delightful sea voyage. The less one thinks of the possibilities of offerings to Neptune the better. No bromide of sodium or potassium fads are worth mentioning. No bandages for the bowels except in the case of pregnant women, and then only as a comfortable support. No nightmare of colored glasses. No special diet beyond remembering that "excess is the cemetery of all enjoyment." For disturbed digestion do not give calomel or salts. A mild

aperient, a half hour before breakfast once or twice on the voyage across—or on long voyages, once a week is usually sufficient. Nervous cases are not benefited by hypodermic injections of morphia at sea or on shore. It is a good idea to get used to cabin smells very gradually, especially the first day or two, and it is well to remain on deck dozing or reading something of keen interest. To spend all the time possible on deck every day and evening is almost always good advice.

Avoid mixtures of foods. Coffee, toast, oatmeal, eggs—bacon will answer for breakfast—*preceded with oranges or apples. Plain soup, meat, potatoes, dessert (if not too sweet), red wine or champagne. I have found champagne with cracked ice an invaluable remedy for sensitive people at sea, and I have kept patients alive on this treatment on deck when they seemed very ill.

Belladonna plasters are peculiarly *unsuited* for many cases, and are in my experience nauseating to well people even on shore. Many people come on board worn out with excitement, and plastered beyond reason. The discomforts of seasickness, while most distressing, are seldom dangerous, and the resulting good health and good spirits are observable by the third or fourth day out. Capsicum plasters to the epigastrium I have found needless torture, but when insisted upon can be furnished as a faith cure. Seasickness is a disorder, and is not due to the imagination, however much the mind may assist in collecting the demoralization.

"The most generally accepted theory of the causation of seasickness is that which attributes it to an influence on the circulation of the cerebral cortex produced by the oscillation of the ship, thus accounting for the gastric symptoms. This will not, however, explain all cases of naupathia. Rubenstein (*Rev. Int. Med. and Chir.*) has often observed that symptoms of *mal-de-mer*—for instance, paleness of the face, and especially of the lips—develop in some persons when the sea is calm and the vessel moves with scarcely any oscillation." I am unable to state from what journal I obtained this quotation, but my experiences coincide with the statement, but I do not agree with Rubenstein that the "cause of the malady is the irritation of the retina, caused by the solar rays reflected from the water"—as in stormy, cloudy weather, and even in the darkness, naupathia is present. We have only to remember experiences on the English channel from Ostend to Dover, from Dover to Calais, from Southampton to Havre—and on the "choppy" journey from Leith to Rotterdam—to convince us that *mal-de-mer* is a sickness caused by being at sea. But we must not lose sight of the fact that much of the nausea is caused by profound disgust from smells and nauseating sights and sounds which would make us almost as sick on shore.

W. T. P.

THE family of the late Roswell P. Flower has given the hospital which bears his name the sum of \$200,000, in order to perpetuate the same. It would be a gracious act if the college connected with this hospital, in honor of its great benefactor and in justice to its students, would assume this name, and thus remove a cause of complaint of many of its alumni who consider themselves handicapped by a sectarian name. This change would solve the matter.

*Our correspondent is wrong in advising fruit acid before the meal which contains starch, as it will make the stomach acid when it ought to be alkaline! This seems like a small matter, but in our experience it is an important one.

A. K. H.

"WHAT IS A HOMEOPATHIC PHYSICIAN?"

To the Editors of THE MEDICAL TIMES:

The following definition was adopted by the American Institute of Homeopathy at its last annual meeting: "I define a homeopathic physician as one who adds to his knowledge of medicine a special knowledge of homeopathic therapeutics. All that pertains to the great field of medical learning is his by tradition, by inheritance, by right." The same idea was expressed in more concise and epigrammatic form by Dr. Chas. E. Walton, ex-president of the institute, in a recent address, when he said of the homeopathic physician that "he is a compound of all that is good in all systems." The "sparkling and forceful" speaker (we quote from the *Medical Era*) also remarked that "when the administration of an attenuated medicine is followed by a cure, it may be a coincidence; but the fact is, homeopathy makes a specialty of coincidences." He reminded his audience that "two-thirds of all acute diseases will recover on nothing—and plenty of it;" and that, "after the science of homeopathy has been taught, its successful application resides in the man behind the prescription." Here, then, we have the formal text—the official utterance—and the "scintillating" commentary. Taken together they throw a very convincing light upon the present relative situation of the erstwhile contending "schools." Less than a generation ago what Dr. Walton now puts forward as homeopathy's distinctive merit was precisely the gist of the old school's heaviest charge against the system; and precisely what such champions as Carroll Dunham were earnestly engaged in refuting. It was the patient's superstitious faith, and the personal influence of "the man behind the prescription"—these and these alone—which were the efficient causes of every homeopathic cure. And now leading representatives of homeopathy openly declare that these allegations are perfectly true, and recognized as such by all homeopaths! What must next follow upon this change of front is already clearly apparent. Editor Porter, to be sure, protests that, although "the term 'homeopathic' will undoubtedly be dropped some time as the name of a distinct school of medicine, that time will never come until our old school friends will admit the truth of the homeopathic law," etc. No doubt our virtuous colleague—like Donna Julia, who, "whispering she would ne'er consent, consented"—will keep up this kind of resistance almost to the last. Bro. Foulon, however, that veteran of the *Clinical Reporter*, boldly acknowledges that this pretended barrier is down already. "The law of similars," he says, "is admitted by our antagonists as practically correct." In proof of which, I need only refer to Dr. Ewart's explanation of his proposed treatment of heart disease by carbonic acid, as reported by the London correspondent of the *Therapeutic Gazette*, in the December number of that journal. After Dr. Pyle's admirable presentation of the case in last month's *TIMES*, it would be superfluous for me to offer any further argument in favor of "retiring the word 'homeopath' and graduating the student a free, untrammelled physician in the most liberal sense."

"There's a good time coming, boys;
Wait a little longer!"

GEORGE L. FREEMAN, M.D.

Glen Head, N. Y., Jan. 20, 1900.

TRANSLATIONS, ETC.

RETROSPECTIVE THERAPEUTICS.

By Alfred K. Hills, M.D., Fellow of the Academy of Medicine of New York, Etc.

Treatment of Heart Disease by Inhalation of Carbonic Acid Gas.—Ewart, of London (*Therap. Gaz.*, Dec. 15, 1899,) maintains that this treatment brings within the scope of Nauheim therapeutics a considerable number of cases that would otherwise be set down as unfit; indeed, he attributes much of the efficacy of the Nauheim bath treatment to the incidental inhalation of carbonic acid gas. Whereas Balnear treatment exercises its greatest influence over the period of recuperation, the inhalation treatment is indicated in the stage of failing cardiac energy. Ewart lays it down that those cases will derive most benefit in which the elements of respiratory distress and cardiac pain predominate. Like many other drugs that in large doses possess a toxic and baneful effect, carbonic acid gas has in lesser doses an active physiological effect. It would seem that none of the carbonic gas inhaled passes directly into the blood-stream, but by raising the partial pressure of that gas in the lung prevents the liberation of some portion of the same gas already in the blood. Short of the asphyxial state induced by large doses of an irrespirable gas, Ewart enumerates the following as the chief physiological effects of smaller doses of carbonic acid gas, inhaled experimentally in moderate concentration: (1) A feeling of internal warmth, and after a time some flushing; (2) a strong desire to breathe, and particularly to breathe out; (3) an excited state of the circulation, which may amount to throbbing or palpitation; (4) a slight giddiness and headache supervening after a while in some susceptible subjects; (5) general anesthesia is not brought about by moderate inhalations; (6) cutaneous anesthesia has not been obtained as a result of the inhalation, but only by the local action of the gas upon the skin. Side by side with these effects of inhalation of carbonic acid gas on the healthy subject, Ewart sets the observations of its effects on patients with cardiac symptoms. The subjective effects are: (1) Rapid diminution or cessation of cardiac distress or pain; (2) a feeling of increased freedom of respiration. The objective effects are: (3) A visible increase in the depth of respiration; (4) a marked improvement of the pulse; (5) an obvious improvement both in the complexion and expression of more than transitory duration; (6) by systematic repetition progressive improvement in the patient's general condition, as well as in the cardiac and respiratory functions. Thus it will be seen that the direct effect upon the cardio-vascular system is reinforced by the greater range of respiratory movements, which, so to say, open up wider channels by which the blood may find its way through the lungs.

Phototherapy.—J. W. Kime writes to the *Journ. of the American Med. Association* that he has had constructed a metallic reflector that pours a volume of concentrated sunshine over the entire thorax and abdomen, which is as hot as the patient can bear. The heat rays are excluded as much as possible. This reflector is used in the same manner in which Archimedes is said to have fired the Roman ships.

He has already reported cases of lupus thus cured. Since then he has treated two additional cases of lupus, both of which were cured by a single treatment, each of about five minutes' duration. The bacilli are destroyed

by the intensity of the light, and the ulcer becomes a simple one and soon heals. Abrams of San Francisco has also reported cures of lupus by the use of a five-inch lens.

Besides the specific action of the light on the morbid process in the lung substance, no small amount of the benefit derived is believed to be through the blood which has passed in immediate contact with the strongly condensed sunlight while circulating through the skin of the chest and abdomen. The patients, if not too far advanced in the so-called third stage of tuberculosis, soon acquire better color, the cough disappears, the temperature declines, and in time reaches the normal; night sweats cease, râles disappear, and there is increase in the body weight.

The intense light concentrated by the twelve-inch lens Kime now uses by moving the lens rapidly over the chest to prevent burning, and yet permitting of deep penetration of the actinic rays into the substance of the lungs. This he calls a sort of sun massage.

Therapeutics of Kola.—In a paper presented at the last annual meeting of the American Medical Association (*J. A. M. A.*, Nov., 1899,) Dr. Charles C. Yarbrough directs attention to kola, the seed or nut of *sterculia acuminata*, as "one of the most valuable drugs of our newer Materia Medica." Its stimulation, he claims, is peculiar, in that it is tonic in effect and does not leave the secondary depression and "all-gone" feeling which, like the after-effects of the ordinary stimulants, is calculated to gradually develop into an irresistible desire for a continuation of the use of the drug. Thus kola is not a habit-forming drug, a point of inestimable value in its favor.

There are thousands of habitués of stimulant drug in this country to-day, in a most deplorable condition, the victims of an unconquerable habit dating its commencement from the use of a physician's prescription calling for the drug to which the victim is addicted. Among these may be mentioned as most prominent the inebriates of alcohol and coca. Being cognizant of this lamentable truth, the physician should hesitate and consider well before prescribing one of these mischievous drugs.

There may be rare cases where the peculiar stimulant effects of either one or both of these drugs are indispensable, but the writer holds, and thinks his position fully supported by clinical evidence, that the happy stimulation of kola would be highly satisfactory in the great majority of cases where a general stimulant is indicated. This being the case, kola should be one of the most frequently used drugs, since a large proportion of cases treated by the general practitioner are of an asthenic type, and call for the use of some supportive and stimulant treatment. Kola is admirably adapted to such a class of cases, for its co-operating tonic action maintains its beneficent stimulation.

The physiologic action of kola is analogous to that of caffeine, but, in its fresh state especially, differs in that it is more pronounced and prolonged. Whatever may be the true reason therefor, the fact remains that the fresh, undried kola is by far the most effective and preferable. The failure of some physicians to get good results from the use of kola has no doubt been due, in some instances, to the employment of preparations representing the dried drug.

The success of kola has been particularly noteworthy in the treatment of that obstinate disease of childhood—pertussis. Blocker reports that he has used it in a large number of cases with surprisingly good results—the at-

tack being cut short and the child's condition rapidly improved.

In asthma, kola has proved itself to be peculiarly beneficial, relieving many cases, some permanently, where other medicinal agents have failed.

Kola is a decided diuretic, and, as such, is highly serviceable in Bright's disease, cardiac and renal dropsies, rheumatic and rheumatoid conditions, and in all cases where a stimulus to diuresis is indicated, particularly in those characterized by atonic conditions.

As a cardiac tonic, it ranks well with digitalis. Kola, unlike digitalis, does not have a cumulative action; hence it is a good substitute for digitalis, and may be used whenever the latter is indicated, or the two may be advantageously combined. Kola is, then, of service in cardiac diseases, in cases of shock with collapse, delirium tremens, etc.

Melancholia is another morbid manifestation which is by no means rare in which kola gives admirable results. There have been cases, apparently irremediable, that have been entirely cured by the timely use of kola. The value of kola in this disease is gradually becoming more widely and better known, and, as a result, it is now used in nearly all of the leading institutions for the treatment of mental disease.

In alcoholism and morphinism, the effects of kola as a stimulant and supportive are of great service in sustaining the system against shock from gradually reducing or interdicting the use of alcohol or morphine, respectively.

Kola is of value in combating and preventing surgical shock. Administered before and after a surgical operation, is power of conserving strength and exerting a tonic influence on the nervous system will certainly render the patient less liable to collapse. It has been used by some of our leading surgeons for this purpose, and invariably with success.

Uterine inertia, when due to nervous exhaustion or occurring in weakly, debilitated women, has been found to be amenable to the action of kola. Kola is also useful in normal parturition, to sustain the strength of the patient and stimulate the uterus to its best action.

The sustaining, strength-conserving power of Kola, its characteristic action, makes it, then, of great importance as a therapeutic agent. It renders it peculiarly applicable to all those conditions where fatigue and exhaustion are prominent. Many physicians take advantage of this property of the drug to sustain themselves through extra and long-continued work, and especially if their duties call for loss of sleep.

"Rational" Treatment of Typhoid Fever.—Page (*St. Louis Med. Gaz.*, Oct., 1899) criticises the manner in which cold baths are used in the treatment of typhoid, saying that they should never be employed for the purpose of directly reducing the temperature, but in order to remove the cause of fever and pain. This can never be accomplished by the use of antipyretic drugs. In addition to the cold baths, of which the writer gives as many as six the first day, the patient is kept on a strictly water-diet for several days, until he is convalescent and absolutely hungry. During this time absolutely nothing is given but soft, fresh water, in large quantities. In every case of extremely high temperature there is practically a loss of all the dissolving and preserving fluids, saliva, gastric juice, etc., and in place of digestion there is only fermentation and putrefaction of ingested food, with consequent blood-poisoning. This is the explanation of the unsatisfactory results obtained by some physicians who have made use of the

cold bath, the advantages of the bath in their hands having been overbalanced by the disadvantages of the food given, as many physicians employ forced feeding as a routine practice. If no food is given it will not be necessary to continue the baths in most cases for more than a few days. Page gives the history of a patient to whom six baths were given the first day, and two on the second day. It was not found necessary to give any baths after that, and in a week the patient was thoroughly convalescent.

Milk Serum in Restorative Therapeutics.—After four years of tests and experiments, Gimbert and Tajasque, of Cannes, now announce (*Bull. d. l'Acad. Méd. (Paris)*, July 11; *J. A. M. A.*) that in milk serum we have a new product "as natural, as alive, and as complete as biologic chemistry is able to produce," which modifies in the most favorable manner, attenuating or curing all diseases accompanied by debility and generally defective nutrition. It has no vaccinating or immunizing qualities, and is absolutely non-toxic and harmless. Although readily absorbed by all the natural channels, the hypodermic method has been preferred as better adapted for comparative tests. It has proved a most valuable vehicle for arsenic, strychnine, mercury, etc. Gimbert has now a long list of tuberculous and other patients cured with this new seropathy, which he is soon to publish. The serum is prepared by coagulating the milk; the curd is dried in the oven and ground to a powder, mixed with a little calcium carbonate and put over the water-bath for a few hours with the whey, first filtered and sterilized at 120° C. When the serum is sufficiently saturated it is filtered, a little carbolic acid added to preserve it, and sterilized again after bottling. No reaction occurs with the Tajasque serum under ordinary conditions.

Suggestion Therapeutics in Internal Medicine.—A. Hofmann describes eleven cases in detail, treated by suggestion alone. It was strikingly successful in habitual constipation and insomnia, hysteric cramps and neurasthenic headache. Each case was followed up, and no possible ill-effects of the treatment could be discovered; the patients were cured as perfectly as could have been accomplished with drugs, while the deleterious effects of the latter were avoided. Hofmann considers it the duty of the physician to try suggestion in case of failure of other methods, observing that the lack of knowledge of the true nature of electricity has not deterred us from applying it in therapeutics, and we should resort to hypnosis in the same spirit.

Glycerino-Phosphate of Soda in Nervous Diseases.—Kahane (*Klin. therap. Woch.*) believes that this drug theoretically answers all a nerve restorant should, being a direct factor in the making up of lecithin—which, chemically, is neurin distearyl-glycerin phosphate—and meeting the requirements better than drugs commonly used in neurotic cases, such as bromides, valerian, etc., that afford only temporary relief. It is best administered in combination with soda, potassa, lime, magnesia, etc., the dose being from about 2 to 10 grains, three times a day. The salts of the alkalis are soluble in water, making it easy to combine with other remedies.

The J. B. Lippincott Company announces that they have secured new quarters at 624 Chestnut street, Philadelphia, since their destructive fire, and that soon they will have a full supply of their important publications in the latest types.

Dr. Thos. J. Mays (Med. Council) recommends the following treatment of phthisis pulmonalis:

"Five minims of a 2½ per cent. solution of pure silver nitrate (Merck's) is the usual dose. The point which has been selected for its administration is immediately over or slightly behind the pulsating carotid artery in the region of the neck, midway between the angle of the lower jaw and the clavicle. In order to avoid puncturing the carotid artery, or its neighboring jugular vein, it is important to lift the skin between the thumb and the forefinger of the left hand and introduce the needle just under the elevated skin. The silver solution alone produces considerable local pain immediately after its injection, and in order to avoid this, it is very necessary to precede it with an injection of 5 minims of a 2½ per cent. solution of cocain hydrochlorate.

"The following plan has thus far been found most practical for the introduction of these agents: Inject the cocain solution, detach the syringe from the needle and let the latter remain in the puncture. Wash out the syringe with water, draw the silver solution into the syringe, attach the latter to the needle, and throw in the required amount."

Dr. Brodnax recommends two grs. of nitrate of silver to the ounce for injection in cystitis.

RETROSPECTIVE DIETETICS.

The Patient Stomach.—The following feeling remarks, which we find in the *Medical Press and Circular*, derive additional interest just now from what is reported as to the cause of a certain high official's probably fatal illness:

"The rush of modern civilization leaves little time for the average man to think of anything outside the immediate tether of his own absorbing pursuits. He is content to eat, drink, sleep, and take his pleasures as they come, without encroaching upon the period of his scant recreations by such solid labor as that involved in continuous thinking. In this way eating and drinking are regarded much as breathing, or the complex nervous and muscular acts that take place in walking or talking; all are accepted as matters of course. Indeed, it is just this easy way of treating vital functions that only too often leads to their abuse. Let the reader pause for a few moments and think how he treats, and has been in the habit of treating, his own patient stomach. Does he begin the day with a heavy breakfast, including several cups of strong tea? Does he take a meat luncheon, with wine or other alcoholic drink? Does he indulge in afternoon tea, and wind up with a dinner of half a dozen courses, tempered with more alcohol? If a man, does he distribute odd alcoholic drinks over the whole day's program? Is tobacco included in the daily trials of the stomach? A steady course of public dinners would, in time, ruin the digestion of a rhinoceros or an ostrich. The three square meals a day of the average country house quickly upset the digestion of the visitor who is used to think highly and live plainly. Indeed, no great intellectual activity can be permanently associated with gluttony. The amount of abuse the modern civilized stomach can withstand is an eternal monument to the perfecting powers of the evolutionary survival of the fittest."

"**Pure Foods.**"—The Washington correspondent of the *Brooklyn Eagle* states that the chemists of the Department of Agriculture have of late been giving attention to the numerous breakfast foods that are being so actively pushed before the purchasing public. Samples were obtained of the advertised brands and repeated analyses made, with the result, the correspondent states, "that the official report, which will be issued before long,

will show that the makers of these preparations have been so enterprising in advertising their wares as to forget to stick closely to facts." While the analyses proved that there was practically no adulteration, they found that there was no discoverable relation between quality and prices. Some of these preparations are sold at four or five times the cost of others of the same constitution and equal merit. Oatmeal in bulk, for example, was found in composition, and, as far as could be judged, in quality and flavor, as good as that sold in packages at a much higher rate. It is well in these days of food and diet fads to keep in mind the commercial reasons for the existence of the numerous preparations advertised as "health foods," etc. The forthcoming report of Dr. Wiley will be of interest to medical men, who are so often consulted in regard to these articles.

Coal Oil in Drinking Water.—Dr. I. E. Shute, of Opelousas, La., calls attention, in the *Medical Summary*, to the use of coal-oil in drinking water. "Some years ago," he says, "I saw a creole pour coal-oil into his cistern, and on inquiring for what purpose, was informed that the coal-oil prevented all insects from entering the water, and would clean out the 'wiggletails' and wood lice, so I went to experimenting.

"I took a barrel of rain water, full of 'wiggletails' and wood lice, poured in a tablespoonful of coal-oil, stirred up the water, and in an hour afterward no living insect was to be found in the barrel, the water being as clear as crystal oil, the oil only showing on top and the taste sweet and pure. I believe it purifies the water as well as prevents the formation of germs. I defy anyone to find a cistern among the creoles of St. Landry Parish that does not contain coal-oil. I am now in the habit, when called to a case of fever, of asking if their water has been 'coal-oiled,' and if not I order an ordinary gobletful of the oil to a large cistern. Also, I believe it prevents all diseases originating in impure water."

Dieting in Pregnancy.—Bedford Fenwick, in a clinical lecture on this subject (*Med. Times and Hospital Gaz.*, September, 1899), earnestly advises a preventive method which he has invariably employed in the pregnancy of patients who had any degree of pelvic contraction, or other condition which caused dystocia.

Practically, the system to which he alludes is based upon the exclusion from the diet, as far as possible, of starchy and saccharine foods and the restriction of fluids. In other respects but little change is made, and nitrogenous foods are given in moderation. The following is a fair example of the dietary which he has for some years used, with excellent results, in private practice:

For Breakfast.—A small teacupful of tea or coffee, an egg, and two slices of toast.

For Lunch.—Any kind of meat, game, or fish, green vegetables, one slice of toast or a dry biscuit, cheese, one wineglassful of wine, milk, or any other fluid, excepting malt liquors.

At Afternoon Tea.—A small teacupful of tea or coffee, with one slice of bread and butter, or cake.

For Dinner.—The same as for luncheon.

The quantity of fluid to be taken during each day is, therefore, restricted to about fifteen ounces, and some patients at first find it impossible to satisfy their thirst with this quantity. The addition of a small quantity of lime-juice and effervescing water is sometimes useful, or the patient may be advised to suck thin slices of lemon if the thirst is considerable.

The result of this dietary is that no superfluous fat is developed on the fetus, and the bones, although firm, are undoubtedly more soft, and the bones of the head

are, therefore, more easily moulded than is the case when the mother is taking an ordinary diet. The practical result of this system, in the lecturer's experience, has been that women who had previously had extremely difficult labors, and who, in many instances, had never borne a living child, have subsequently had comparatively easy times, and have had living and healthy children at full term.

The only drawback, beyond the sensation of thirst, is that these patients exhibit a tendency to early rupture of the membranes; and thus the first stage of labor seems to be more tedious and painful than it would be if the membranes remained intact, and the hydraulic influence of the amniotic fluid were available for the dilation of the cervix. During the last week of pregnancy in these cases—that is to say, as soon as the uterus begins to fall in the pelvis—the patient should be advised not to leave the house, but to rest as much as possible on the couch during the day, so as to avoid any strain or over-exertion which might precipitate the rupture of the membranes.

How Brain-Workers Should Eat.—It is all right, says a writer in the *Sanitary Record (Med. Rec.)*, for the man who labors all day in the open air to eat freely; but the man of sedentary habits, the brain-worker, must adapt his way of living to his needs. He must be well nourished, for the brain is incapable of good work unless well supplied with pure blood, but such a man cannot possibly furnish vital force to digest three large meals daily. If he tries it, nature will protest at every step. The chemical changes of digestion will be imperfectly performed. The stomach will neither secrete freely nor churn the food with cheerful alacrity; the pyloric orifice contracts and allows such chyme to pass with grudging reluctance; the intestinal lacteals are ashamed to absorb such miserable pabulum, which chokes, irritates and congests them, so the large meal remains in the digestive organs to ferment, putrefy, and steep the individual in foul gases and depraved secretions. But the system can furnish enough vital force to convert a small meal into pabulum of high standard, which will be absorbed without difficulty. Three such small meals are not enough to keep the individual properly nourished, however; four to six will be required. Each should consist of but one or, at most, two articles of food, the diet to be varied by changes at meals. The portion of food served must be small; the patient must stop as soon as the appetite is satisfied, and gaseous distention is proof positive that the meals are still too large or too close together.

Feeding Children of Weak Digestion.—*Archives of Pediatrics* (Nov., 1899; *J. A. M. A.*) says: "The general practitioner is still altogether too prone to give ready-made foods, and to fall back upon that stronghold of ignorance, that 'there are many children who cannot take milk.' " The writer refers to the error of prescribing too strong mixtures for children whose digestive powers are below the average, and says: "The key to success lies in putting the strength of the mixture down at once to 1.5 per cent. of fat and .75 per cent. of proteids, or even lower. The sugar strength is of less importance. The strength of the mixture should then be changed every two or three days until it has reached a satisfactory point. Many specialists, in feeding these children of weak digestion, put the mixture down to very small percentages, notwithstanding the fears of the mother that the child will not get sufficient food. This is, moreover, the secret of the easy digestion of condensed milk. In a one-in-twelve dilution of condensed milk, the strength most commonly used, we have a food that contains but one-eighth the amount of fat and one-third the amount of proteid found in normal breast milk. The fact that

children do no worse on these excessively weak condensed milk mixtures is but one of many proofs that they commonly receive more food than they require. If the doctor who is wedded to the use of condensed milk would not make his fresh milk mixtures four or five times as strong as his condensed milk mixtures, he would be much better satisfied with fresh milk."

OBITUARY.

DR. WILLIAM A. HAMMOND.

Former Surgeon-General William A. Hammond, U. S. A., died very suddenly at his residence in Washington, January 5. Dr. William Alexander Hammond was born in Annapolis, Md., Aug. 28, 1828. He was graduated from the medical department of the University of the City of New York, and entered the United States army in 1849 as an assistant surgeon, with the rank of first lieutenant. In October, 1860, he resigned to accept the professorship of anatomy and physiology in the University of Maryland, but at the beginning of the civil war he again entered the army and was assigned to the organization of general hospitals in Hagerstown, Frederick and Baltimore. In April, 1862, he received the commission of surgeon-general of the army, with the rank of brigadier general. He established the Army Medical Museum by special order, and suggested the plan of the "Medical and Surgical History of the Rebellion." Charges of irregularities in the award of liquor contracts were made against him, and he was tried by court-martial and dismissed from the army in August, 1864. He then removed to New York, where he began the practice of his profession, and made a specialty of diseases of the nervous system.

In 1867-73 he was professor of diseases of the mind and nervous system in Bellevue Hospital Medical College, and then was elected to a similar chair in the medical department of the University of the City of New York. He remained there until 1882, when he became one of the founders of the New York Post-Graduate Medical School. In 1870 he became physician at the New York State Hospital for diseases of the nervous system. In 1878 a bill was submitted to Congress authorizing the President to review the proceedings of the court-martial. This measure was passed by the House unanimously and by the Senate with but one dissenting vote. In August, 1879, it was approved by the President, and Dr. Hammond was restored to his place on the rolls of the army as surgeon-general and brigadier general on the retired list. He founded and edited the *Maryland and Virginia Medical Journal*, was one of the originators of the *New York Medical Journal*, and established the *Quarterly Journal of Psychological Medicine and Medical Jurisprudence*, becoming its editor.

The death is recently announced in London of Sir James Paget, one of the most celebrated English surgeons of the century, in his eighty-sixth year. He was created a baronet in 1871 in recognition of his many discoveries in surgery. In 1875 he was president of the Royal College of Surgeons, and from 1884 to 1895 was vice-chancellor of the London University. One of his most important works was his lectures on surgical pathology.

Dr. Charles E. Jones died at his residence in Albany, December 1, 1899. Dr. Jones was a member of the board of managers of the Craig colony from its organization till his death, and from his ability as a physician and his integrity as a man won the esteem of all with whom he was brought in contact.

HOSPITAL REPORTS.

THE ETIOLOGY AND TREATMENT OF CROUPOUS PNEUMONIA.

BY GEORGE R. WILSON, M. D., PHILADELPHIA.

Pneumonia is one of the most widespread and fatal diseases of this country, and there is a growing opinion among the profession that it is now a more uncertain and difficult disease to treat than it has been in former years. Just why this should be, considering the advances made in bacteriology, hydrotherapy, and we may add serum-therapy, is not plain. One writer notes that the present course of pneumonia in many cases is not the typical, straight-forward one observed formerly, and suggests that influenza may have a part in causing this change. Owing to the great prevalence of the latter, with its exceedingly numerous ways of manifesting itself, this probability is a very likely one. J. C. Wilson, in one of his clinics, spoke of the racial characteristics of different diseases including croupous pneumonia, a case of which he was then discussing. The different types of immigrants met with now in comparison with those of a few decades ago were mentioned and the speaker said that physicians had had to learn different races within the last thirty years. The diseases were the same but the clinical manifestations were different. While this would be true in a greater degree concerning hospital practice we think it worthy of note in this connection as applying to private practice as well. Tyson remarks "the conclusion is apparently unjustified by a study of statistics, but it does seem to me that pneumonia is a more fatal disease now than when I began practice thirty years ago."

It is generally accepted that the organism causing the larger number of the cases of lobar pneumonia is the diplococcus pneumonic, or diplococcus of Frankel. Stengel states in his Pathology that the specific character of this organism has not been definitely proved according to the rules of Koch, but it is highly probable that it is the usual cause of pneumonia. Besides the diplococcus there are certainly other elements which contribute to the causation of the disease, else the frequent occurrence of the micro-organism in question in the saliva would make pneumonia a much more common affection. Exposure to cold, traumatism, alcoholism, etc., certainly predispose. These causes may act by temporarily increasing the virulence of the diplococcus or by lowering the resistive power.

Weismayer reports thirty-nine cases in which the sputum was examined and of these thirty-four contained only the diplococcus of Frankel. All of these terminated before the twelfth day. In two cases the streptococcus was present in addition to the diplococcus. The first was complicated by diabetes and died on the nineteenth day. The second slowly recovered after a febrile course of thirty-seven days. In three cases the streptococcus alone was found. The symptoms were much like typical, frank pneumonia, but the physical signs did not disappear until late. In one they did not appear until the ninth day and lasted until the thirty-first. In the other two cases resolution was

complete on the nineteenth and twenty-fifth days, respectively.

Regarding the bacillus typhosus as the cause of pneumonia J. W. Moore (Dublin Jour. Med. Sci., Jan. 18, 1898) gives examples in which the typhoid bacillus was present and seemed to have caused the disease. In a series of cases in the same street in Dublin, cases of typhoid fever and of pneumonia alternated. He believes that the typhoid bacillus was the cause of both diseases in that instance. After examining other cases of double infection he reaches the conclusion that true pneumonia may be caused by the action of the streptococcus of erysipelas, or the bacilli of influenza, tuberculosis or typhoid fever. J. M. Da Costa, in his clinics at the Pennsylvania Hospital during the winter of '98-'99, showed several cases of lung complications in typhoid fever. Among these were at least two cases of true lobar pneumonia and one case of catarrhal pneumonia. In one of the cases the typhoid symptoms were mild. There was no diarrhea and no abdominal tendencies. However, there were spots and the widal test gave a positive reaction, there being no doubt of typhoid fever being present. Da Costa remarked that there were times when the typhoid bacillus expended its virulence on the lungs rather than the intestines. The bacillus invades the lung tissue, being found there when autopsy is made. He designates this condition as really typhoid fever having the lung as its site. Another case at the same time, too ill to bring into the clinic, presented more marked lung symptoms and the peculiarity of it was the extreme loudness of the râles. This he stated as being in favor of the view of one writer that extreme loudness of the râles was one way of determining the presence of typhoid fever with the pneumonia, when in doubt as to their co-existence.

Robinson (Med. Rec., Feb. 19, 1898) contends that pneumonia is contagious and is likely to be communicated to attendants who should be careful to not inhale the patient's breath. He thinks pneumonia patients should be isolated and disinfectants used. Lop and Bonteux describe an epidemic of pneumonia of twenty-five cases with eleven deaths. In most of these cases there was opportunity for direct contagion. The disease was remarkable for its gravity and for the involvement of the nervous and circulatory symptoms. The pulmonary changes were comparatively slight, and evacuation of the contaminated quarters led to the disappearance of the epidemic.

In the treatment of pneumonia more, perhaps, than in any other disease, each case is a law unto itself. Some practitioners view it as a self-limited disease and unless some symptom becomes unduly prominent think treatment almost unnecessary. Others contend that it very frequently calls for energetic interference. J. C. Wilson considers veratrum viride, aconite, and antimony as useless. So long as the disease was regarded only as an inflammation there was some justification for the use of these remedies, those who now recognize the disease as an infectious process prefer not to add perturbing drugs. Antipyretics are generally not needed but, if so, sponging is often efficient. He finds systematic cold bathing has not given good results but in

soporose or delirious cases an occasional five-minute bath may do good. Guaiacol lowers temperature but causes too profound a general effect. There is a question among practitioners as to the value of oxygen inhalations but he has so often seen the administration of one part of oxygen and two parts of nitrous oxide cause the disappearance of cyanosis, the production of sleep, and the lessening of the respiratory rate four, eight, or ten to the minute that he thinks this of value. He is very partial to the use of Dover's Powder to control the pain and relieve mental apprehension. It may be given until slight somnolence is attained.

De Becker finds distinctly favorable results from a two years' trial of salicylic acid. It increases expectoration and liquefaction of the exudate, the sputum becoming very liquid; he thinks, it acts partly as an antiseptic and partly by aiding in the removal of the exudate. He gives about seven grains every two or three hours to adults. This treatment is contra-indicated by cardiac disease and extreme weakness. R. Liegel has also used large doses of sodium salicylate and thinks that this drug very greatly modifies the disease. There was no crisis in any of the cases but the temperature fell within two days. A number of recrudescences occurred but these were brought under control by the same treatment.

Osler considers that the all-important treatment in pneumonia is to support the heart. To prevent the onset of cardiac weakness high and prolonged pyrexia should be combated and for this our most trusted weapon is hydro-therapy. The ice-bag is one of the most convenient ways of using this. It has been used in his wards systematically for six years with very good results. Cold sponging should be employed as a routine measure in cases of pneumonia. When done limb by limb the patient is very little disturbed, and it is refreshing and beneficial. With very pronounced nervous symptoms and persistent high temperature, a cold bath of ten minutes' duration may be given. His experience with the full cold bath is not large enough to enable him to express a positive opinion, but he thinks that in this country we have not used it sufficiently in the toxic cases, in which class of cases in typhoid fever we see such good results from its employment. To treat heart weakness, when present, free venesection is sometimes helpful although personal experience has not been very satisfactory in this direction. Two cases were seen, however, in which this measure seemed timely and even life-saving. Alcohol and strychnia are to be given in full amounts but the precise indications for the use of digitalis in pneumonia are not easy to estimate. He rarely uses it unless the heart's action becomes very rapid or there is a sudden onset of cardiac weakness indicated by a very quick and irregular pulse. Then it may be given freely, either in the form of the tincture, fifteen or twenty minims every two hours until two drachms are given, or a good digitalin hypodermically in doses of from a thirtieth to a twentieth of a grain. It is doubtful whether the inhalation of oxygen is really beneficial. Personally, when called in consultation to a case, if he sees an oxygen cylinder at the bedside he feels the prognosis to be very grave. How-

ever, it does sometimes seem to give temporary relief and to diminish the cyanosis. It is harmless, its exhibition is very simple, and the process need not be at all disturbing to the patient.

Tyson believes that the indications for blood-letting in pneumonia are found as a rule only in the first stage and the beginning of the second, and include great dyspnea, full, bounding pulse, and sharp, pleuritic pain. The amount of blood taken should not be less than twenty ounces, but relief of the symptoms must determine when to stop. The same results may be accomplished by wet cups. If doubt is entertained as to the propriety of either of these two methods, the affected lung should be covered with dry cups and after the removal of these the hot poultice or hot jacket applied. By this method the relief is often very great but is more apt to be temporary. Bleeding, besides relieving the symptoms already referred to, hastens the crisis and shortens the disease. His experience in the use of ice-cold applications has not been large but it has been such as to encourage him to continue it. He prefers the method of enveloping the chest in a suitably fitted jacket wet in cold water; directing that the jacket be removed and substituted by the dry cotton jacket whenever the temperature falls to 100 degrees and renewed when the temperature rises. In this way all danger is avoided. This treatment was effectual in one case admitted to the hospital breathing at the rate of fifty-eight a minute, and of whose recovery there was no expectation.

Hare recommends quinine very highly in the treatment of lobar pneumonia in children. It should be used in suppositories in the dose of two grains three times a day. The results from this method of treatment have been highly gratifying.

Da Costa obtains great benefit from the use of oxygen inhalations, especially in some of the severe cases of pneumonia in typhoid fever previously mentioned in this article. In one case he gave carbonate of ammonium, five grains every three hours, one-thirtieth of strychnia at the same interval, and one-half ounce whiskey every two hours. Dry cups were also thought to be of benefit. He finds strychnia of great value in the treatment of pneumonia.

The serum-treatment of pneumonia, like that of many other diseases, is yet in its experimental stage. This method has not been tried with sufficient thoroughness to warrant a positive conclusion but it gives enough promise to warrant further investigations and trial. Washburne treated six cases, some of them severe, with anti-pneumococcic serum with which he was experimenting. All of them recovered. Paine used it in nine cases. He recommends the average dose of twenty c.c. per day, and this should be used early, if at all. Death occurred in but one case, and in this the serum was not administered until the fifth day and then in too small doses. In the other cases rapid improvement followed the use of the serum.

Weisbecker (Munich, Med. Woch., Feb. 15 and 22, 1898) treated seventeen cases with serum obtained from convalescents. The results were most striking, especially the immediate change for the better in the general

condition, a number of patients having after the serum-injection no appearance of illness, excepting the fever and the local signs in the lungs. Sometimes the fever became exceedingly irregular after the injections. If the injections were used early, consolidation did not completely form and soon disappeared; but if consolidation were already partly developed, the local signs became intense, but the general symptoms did not appear in grave form. The only fatalities, two in number, occurred from complications, in both cases cardiac inefficiency; one of these patients having emphysema and the other being seventy-eight years of age. Huber and Blumenthal (Berlinklin Woch.) have treated fourteen cases of pneumonia with blood obtained from convalescents from this disease. The blood was at first mixed with an equal amount of sodium chlorid. Chloroform was afterward added to this, and the mixture was stood aside for twenty-four hours. It was then carefully pressed through sterile linen and filtered through sterilized sand, being filtered a second time if any hemoglobin remained after the first filtration. Among the fourteen cases treated with this preparation there were but two deaths. In eleven of the cases the crises occurred between the third and the eleventh days. In four there was marked decline in the temperature after the injection, together with a distinct improvement in the general condition of the patients. No results were obtained in cases that were treated with blood-filtrate obtained from convalescents from diseases other than pneumonia. The blood-filtrate from pneumonia patients protected rabbits from infection with the pneumococcus.

SURGICAL CLINIC.

BY ALEXANDER B. JOHNSON, M. D., ASSISTANT ATTENDING SURGEON, ROOSEVELT HOSPITAL, NEW YORK.

Case 1. Tetanus.—This man, whom you saw about four weeks ago, had had a severe attack of tetanus. Before the introduction of antitoxin, recovery from a severe attack of tetanus beginning so early after inoculation was absolutely unknown. The percentage of recoveries was very low, less than one-half in severe cases. Injections into the brain tissue is a matter not yet thoroughly appreciated. Experiments made show that, in animals, the injection of antitoxin into the brain substance is of great advantage. There is, of course, a reason for this. The poison is evidently a nerve poison, so that we believe that it does no harm, while it is shown that, in animals, it does good. Whether the subcutaneous method is followed by good results I do not know; but in those cases that have been treated here by the intra-cerebral injections I am not aware that so far great improvement has followed. This man received the injection through the skull on one side; it was introduced very slowly, and about two and one-half inches from the surface of the cerebrum. Injections into the lateral ventricle of the brain has been proposed and carried out with the idea that the choroid

plexus would more rapidly absorb the antitoxin—more rapidly than if the antitoxin was directly introduced into the brain substance. A great deal of skill is required to introduce it into the lateral ventricle, and I do not believe that there are many who can be successful in that attempt. The function of the choroid plexus is not yet known and there are certain reasons for believing that it is neither an absorbing nor a secreting organ and so the rationale of this particular operation is not well established. Again, any one not experienced in performing this operation upon the cadaver should not attempt it.

This man's recovery has been uneventful. The opisthotonos was present the evening preceding the day of the injection, four weeks ago; after the injection, although the convulsions did not recur at once, we were not satisfied with the one injection but gave him 10 c.c. every six hours and for a time, every four hours. There was one curious thing to be noted in the study of the temperature chart, and that was, that whereas upon the sixth day following the operation the temperature began to steadily rise when he was receiving the injection every six hours subcutaneously, rising steadily for four days until it reached 102 degrees, at which time the antitoxin was increased, and given every four hours, immediately the temperature dropped to 99 degrees and staid there several days and then it rose again to 102.5 degrees or 103 degrees. Then the antitoxin was diminished and the temperature gradually fell to normal and has remained there since. I am not able to explain this temperature course. There is now left a little stiffness of the front of the arm. He is now well.

Case 2. Amputation of Leg for Deformity.—This little boy was operated on by Dr. McBurney last week for deformity of leg and foot. He had a peculiar condition of curvature of the tibia, principally due to a softened condition of the bone, such as occurs in rickets. Of course, as the child continued to grow, with the increased weight, the condition would become worse. It was decided that the best thing for him was to do an amputation, get a good stump, and, at some subsequent time, have him wear an artificial limb. The wound, as you see, is healing as well as can be desired. There is no pain, nor is there any fever, and he is practically well.

Case 3. Appendicitis.—This patient was operated on one week ago. She had a history of frequent attacks of inflammation in the right iliac fossa, none dangerous nor severe, but yet they were sufficient to make a serious menace to health and so it was decided to remove the appendix, and the result has been a perfect one as you can see. The conditions found in this patient showed that there might be an attack of appendicitis at any time. The appendix was thickened, the peritoneum surrounding it was red and congested and had many adhesions. There was no stricture or concretions found. It is often a great advantage to operate at this particular time. After this operation hernia is almost unknown.

Case 4. For Charcot's Joint Resection.—The first patient that I will operate upon to-day presents features of unusual interest. The patient is a woman, 58 years

*Held in the Syms Operating Building, Roosevelt Hospital, Nov. 18.

of age. There is nothing in her past history that would indicate any particular form of serious ill health. She is married and the mother of several children. We cannot discover any history of syphilitic disease.

About eight months ago, she being apparently in ordinary health; she received a slight injury of the knee-joint; the injury was so slight that she paid no attention to it. In the course of a few months there appeared some swelling, which was not painful but which caused her a great deal of discomfort. The swelling persisted and she was attended by some surgeon who diagnosed her condition as traumatic synovitis of the knee, and advised that the limb be fixed and kept quiet in plaster of Paris. The swelling would not go away. Subsequently, finding that prolonged fixation of the joint did no good, the knee was aspirated and some fluid drawn off. It was thought to be tubercular and so the injection of iodoform and glycerine was made. Fluctuation in the joint soon recurred and the joint continued to swell and gradually increased in size. This woman has not complained of any pain at all, and that is a very important point, for you know the majority of serious affections of this joint are characterized by one symptom alone above all others, i. e., pain. This woman has no pain. When we come to examine this woman we find her in fairly good health, well nourished, and you can move the joint with freedom. It fluctuates. The patella fluctuates high up under the condyles of the femur. The woman was sent in with a diagnosis of chronic synovitis of the knee-joint with the intention of having the joint washed out. But at once attention was directed to the fact that the joint was not painful. There is some degree of lateral mobility. The ligaments are stretched, and there is a rounding off of the cartilages of the femur. There also is a certain degree of grating as though the cartilages were destroyed in spots. In other words, the lesion is a serious one and not merely a synovitis.

The diagnosis then rests between (1) a tubercular synovitis; (2) a syphilitic synovitis, which was preceded by a gumma in the neighborhood of the joint; (3) syphilitic gummatous arthritis; (4) rheumatism; (5) arthritis deformans. All of these conditions are almost invariably painful. The lesion now is one that corresponds perfectly with those of an arthritis deformans; if it were painful upon the soles of her feet and upon the ball of her great toe there is induration and a certain amount of slow ulceration underneath. There are two perforating ulcers of the soles of her feet. We also found parasthesia, as though ants were crawling upon the skin. So we are immediately attracted to the consideration of trophic disturbances in the knee-joint. The pupillary reflex is present which is a very curious thing. Of course, we now feel that this is a case of tabes dorsalis, or locomotor ataxia. Dr. Starr, out of 300 cases of tabes dorsalis examined, found the Argyll-Robertson pupil present in 276 cases and absent in the rest. This woman has a slight degree of ataxia. These lesions of locomotor ataxia usually occur late in the disease, but they may be the first symptom. Now, the question arises what can be done with such a joint, for it is a Charcot's joint. I am not aware that surgeons

habitually excise these joints; yet, it is well known that fractures of a limb unite and often with extensive production of bone, and inasmuch as this woman has many months of life before her, and inasmuch as the leg now is entirely useless, and inasmuch as a stiff knee can be walked on all right, I think, in the face of all these circumstances, we should do a resection of the knee. Usually surgeons do not have the opportunity to see the joint in cases suitable for operation.

The lesions which we expect to find in this joint will not differ markedly from the lesions found in arthritis deformans. I expect to find atrophic changes resulting in the wearing away of cartilages at certain points with encroachment of tissue upon those points; also, thickening of the synovial membrane, with the deposition of calcareous plates in the membrane; also, relaxation of the ligaments, deposition of lime salts and practically the lesions found in arthritis deformans. I expect to find a hyperostosis or enlargement in the end of the bone, with growth of new bone from the edge of the synovial membrane. As you see, the patella sinks down, and when I press along the surface of the condyles there is marked grating. When I raise the limb there is marked lateral mobility.

There is no operation which permits such a useful limb as resection. As I now open the joint you note that there is more or less synovial fluid escapes. There is an abnormal growth of cartilage. In spots there is the formation of small bits of calcareous material, especially along the edges of the cartilages.

As I now look down upon the condyles of the femur there are to be seen white glistening cartilages, brownish red in color, a juicy looking membrane which does not in the least resemble tuberculosis, and here and there are to be seen little cartilaginous and calcareous masses imbedded in the membrane. In other words, while the lesion rather closely resembles the typical lesion of arthritis deformans yet the relaxation of the ligaments and the other atrophic conditions present make the diagnosis of Charcot's joint almost absolutely certain. The opportunity for doing this operation is seldom found. The knee seldom pains them and the patients with Charcot's knee will not come to the surgeon except in those instances where the disease is so far advanced, or the tissues so poor, that we are not justified in doing so severe a surgical operation. This patient, being almost entirely in the pre-ataxic stage of the disease, and having several years of comfortable walking before her we feel justified in doing this operation.

Please take note that I have not placed on the limb an Esmarck's bandage. It is a matter of choice whether we place one on or not. If we operate without an Esmarck's bandage it takes a longer time but you get less reaction.

Note here that instead of the convex, rounded surfaces there is a cup-shaped depression which has been produced by imperfect nutrition. Here is a smooth normal condyle of the tibia; in this point the joint cartilage has undergone a peculiar fibrous change; it is not an inflammatory process at all but a degenerative change. As I cut through the capsule I can feel hard calcareous plates which interfere very much with move-

ment; on one side these calcareous plates are so hard that they tend to dull the knife. In doing a resection of this kind it is not necessary to break off a large quantity of bone, for we have no diseased bone; we shall only take off enough to allow bony union to the tibia. In making this section one should remember always to make it parallel to the condyles of the femur and so preserve the natural line of the bone.

In this case please note the large synovial pouch, which has extended away up the quadriceps tendon; although it is not necessary to take it out, yet it is something that we do not need and it might interfere with the results; so we will take it out. This synovial pouch is one of the points we work at in tubercular disease of this joint. It is a very deep pouch and we had better be rid of it; it is extraordinarily large on account of having been distended with fluid so long a time and therefore having been much stretched. This dissecting out of it is quite tedious. This mass of tissue under the quadriceps is very queer. The bone looks like it would had it been worm-eaten and that is quite characteristic. Of course, one sees this after death, but one seldom gets the opportunity of seeing it during life; both its gross and microscopical appearance enables one to distinguish it from plain arthritis deformans. A rather long section of the tibia must be made on account of the loss of substance produced by the pressure, and we must be cautious in cutting into this on account of the proximity of the popliteal artery. Keep the knife towards the bone rather than away from it. The operation, in this instance, is harder than it would be in tuberculosis on account of the cartilaginous plates. Another queer lesion here is the exostosis. Here is a little beak of bone growing from the external condyle of the tibia; that, of course, must come away. That is also one of the lesions common to Charcot's joint and arthritis deformans. Where the joint is dilated in one place in some instances, the joint cavity is obliterated in others; so here, just behind the condyle of the tibia, there is nothing at all except calcareous masses. This usually happens when something has gone from the structure of the joint. Here I find another condition beneath the condyle of the femur, that is, a papillary synovitis. The membrane is rough, vascular and covered with projections or papillae.

Now, I bring the bones together and they appear to be as straight as can be desired. In order to hold the ends of the bones together while we are placing on the dressings, we introduce two sutures of heavy catgut. Some surgeons prefer silver wire or silk. Nails leave a sinus, and soon become loose and so do not hold the bones together. Furthermore, in operations for tubercular disease, the sinus left by the nails favors the recurrence of the tuberculosis in some way. Now in boring, as I am now doing, there is illustrated one of the changes that has taken place, i. e., I can drill through one of the condyles all right but when I attempt to drill through the opposite side it feels like ivory; in other words it demonstrates a disturbance of nutrition.

We have every reason to hope that this limb will unite in the course of a few weeks, with firm bony

union, and she ought to be able to walk well. I use catgut instead of silk sutures because if the wound does perfectly well we do not wish to change the dressings sometimes for a fortnight. Having operated without the use of the Esmärck's bandage we can feel sure that there will be no considerable oozing in the wound, which in a case like this, is of considerable importance. Again, if there was much bleeding in the wound you are, for a time, quite unable to say if you have wound infection, or whether the pain, fever, and malaise from which the patient suffers so much, is due to the blood clot or not. So, although one might be willing to leave a moderate amount of blood clot alone one might not be willing if it were something else.

For drainage I use little strips of folded rubber tissue which does not leave a sinus. I next apply gauze, then a gauze bandage, cotton in abundance and then apply plaster of Paris in the folds of which I place strips of thin wood. The limb is next placed in this cradle. The toes are left exposed in order to watch the circulation. In this particular case it is very important that there should be no considerable pressure upon the bony points because the nutrition here is below par, and the patient does not complain of pain like other people. In patients with locomotor ataxia, if they wear a shoe too tight, they soon get a pressure sore on the foot; yet they were not aware that the shoe was too tight. The occurrence of perforating ulcer of the foot has been attributed to diminished sensation, and not particularly to diminished nutrition and there is some ground for this belief. Operations, when done upon such people, have turned out very well. It will be interesting to know if this patient suffers an ordinary degree of pain after this operation, for this is an operation that is usually followed by a great deal of pain as a rule; they suffer during the first day or two quite as much as any operation cases. This limb will be kept in an elevated position, and if the patient has no very high rise of temperature, the dressings will not be removed for a fortnight.

—S. P. Linberger, a Christian Scientist, died at Wooster, Ohio, on November 23. After his death it was discovered that his son was sick with typhoid fever, and that the other members of the family would not permit a physician to be called. The young man's associates drew the attention of the Probate Court to the case, and Judge McClarran promptly appointed a guardian for the young man, with instruction to produce at once a physician and a competent nurse, and to see that the medicine prescribed was administered.

—Maggie Clancy was formerly a laundress in the employ of Charles Delmonico. On October 21st she was caught in an elevator in the Delmonico building, and her right leg was crushed. She was taken to Bellevue, where she is now convalescing. Every day a liveried man drives to Bellevue in a cab and carries to the bedside of Miss Clancy an immense basket containing a Delmonico dinner. She takes all she desires, being served the while by this Delmonico waiter, and then distributes the remainder among her sister patients.

MISCELLANY.

—The State Board of Health of California has decided not to establish a quarantine against the consumptives of other States.

—A bacteriologic institute has been established in Vladivostock, the principal Russian port on the Pacific, and another is to be opened at Merv in Central Asia.

—The new hospital for infectious diseases, now being erected at Moscow, at the expense of W. E. Morosow, will have 250 beds and will cost 500,000 roubles.

—It is said that permanganate of potash in the preparation of half a grain to the quart of water will render nux vomica taken in poisonous doses a harmless compound.

—Sir William Thompson, Lord Kelvin, has resigned his position as professor of Natural Philosophy in the University of Glasgow after a continuous service in that institution for fifty-three years.

—Luigi treats chorea with the oil of gaultheria mixed with vaseline, externally. From six to ten drops are applied to the upper and lower limbs alternately, the limbs being afterward covered with oiled silk to prevent evaporation.

—Professor Charles Sedgwick Minot, of the Harvard Medical School, delivered the annual address to the Yale medical seniors on June 27. He said: "We are brought to the conclusion that though the primary function of our medical schools is to educate practitioners of medicine, yet they ought to assume now the further and higher function of training medical investigators. The requirements of comparative medicine call for more changes than we have yet mentioned. The very word comparative implies that animals shall be included in the study."

—Woods (N. Y. Med. Jnl., Sept. 9) reports the only case of tetanus he has seen recover, the patient treated by hypodermic injections of 10 per cent. solution of carbolic acid until he was able to swallow, except when he was quiet in the night. When he became able to swallow a dram of the solution in glycerine was administered every three hours until the spasms ceased, and after that a dram three times a day, gradually diminished to one-half dram until all rigidity had disappeared. He appends the report of a case of tetanus in a horse similarly treated, with like results.

—At one of the sessions of the recent Women's Congress, in London, one of their leading advocates gravely reminded her hearers that not only were we responsible for all the suffering which we had inflicted on the lower animals in the way of sacrificing them for food, garments, etc., but also for any suffering which they might inflict on one another, inasmuch as on man alone rested the responsibility for the introduction of strife into the animal world through his sin in the garden of Eden. Previous to that all animals were vegetarians. And not a voice was raised in protest against this astonishing logic.

—Sycese is the new material used as a substitute for sugar in diabetes. Its sweetening power is 550 times greater than sugar.

—It is said that the British troops mobilized for service in South Africa have been very generally inoculated against typhoid fever.

—According to the Albany Medical Annals Charles Dudley Warner says that the difference between the "Faith Cure" and the "Mind Cure" is that the mind cure doesn't require any faith, and the faith cure doesn't require any mind.

—The International Journal of Surgery says: When you have blood upon your hands, first wash them in pure water. Using soap at first is a mistake, as soapy water does not dissolve blood rapidly. Clear water and a nail brush should come first, soap next.

—Two German physicians have recently celebrated the seventieth anniversary of their professional activity, Hochberger of Carlsbad, and Nieberding, in their 97th and 95th year respectively, and Kohlschmitt of Oldenburg looks back over seventy-one years of practice.

—Nearly 8,000,000 persons in Germany belong to the Krankenkassen, or, in other words, are insured against illness. One-third of these reported illness in 1898, the average duration being seventeen days, which, taking the average of wages at only fifty cents a day, means a loss of nearly \$24,000,000 a year.

—Dr. George W. Gay, Visiting Surgeon to the Boston City Hospital, recommends chloroform in preference to ether in all cases liable to be complicated by difficult or suspended respiration, noticing in particular tracheotomy and asophogotomy; malignant disease of throat and neck, asthma, etc.; stenosis of the larynx, etc.

—A recently graduated French M. D. is the Reverend Dr. Migot, pastor of a large Protestant parish in the Faubourg Saint-Antoine, Paris. He replied to the question whether he were going to give up the cure of souls for the cure of the body, that there was no antagonism between them, and that he intends to practice both.

—Bial, and later Hirschman, have devised and are perfecting an instrument by means of which it will be possible to take photographs of the interior of the stomach. It is essentially composed of a series of lenses and a camera attached to a stomach tube. The light is derived from an electric lamp. The results so far are very satisfactory.

—It is stated that two druggists of York, Pa., recently entered into a lively competition regarding the sale of morphine, and one of them offered the drug as low as 15 grains for 10 cents. As a result of the increased consumption at the low price, many young men have become addicted to the habit. The local press states that there are 100 habitues. A crusade has been made against the sale of the drug, owing to the death of one of the prominent young men of the town, which followed a hypodermic injection administered by a friend.

ORIGINAL ARTICLES.

THE NERVOUS SYSTEM IN THE PATHOGENESIS OF ALBUMINURIA.

BY J. H. BROWNLOW, M.D., OGDENSBURG, N. Y.

THE obscurity surrounding many of the more common diseases met in everyday practice has been removed by the light of modern medical research during the last decade of the nineteenth century. However, there exists a series of complex symptoms exhibited during the progress of well-defined pathological lesions in the renal organs and arterial system, which have received the name of Bright's disease from the investigator who first classified them, that are still surrounded by obscurity and of questionable origin.

The purpose of this paper is to bring succinctly before the society the generally accepted etiological factors in acute and chronic albuminuria, and examine them with the incentive to determine the reliability of their alleged pathogenic potencies; and then direct your attention to the nervous system, as a possible, if not highly probably, active arcane factor in the development of that complex and undetermined series of symptoms, so familiar to us all, called Bright's disease.

In grouping the etiological factors the authorities usually place cold first, and most prominently, as an active causative agent in the development of acute nephritis; especially sudden and marked changes of temperature, repeated wetting and chilling the heated body; burns or any other lesion which might destroy or materially impair the functions of large portions of the skin. They group all other causes under the head of the direct specific action of noxious substances on tissue elements of the kidneys. Different poisons, and among them the remedial agents, cantharides, turpentine, carbolic acid, and other irritant diuretics, are included. But by far the most prolific cause of acute albuminuria is the morbid condition of the system, the sequel of some of the acute infectious diseases. Chief among these is scarlet fever. The severity of the epidemic is no indication of the renal complications that follow. Diphtheria is regarded as only second to scarlet fever in producing acute albuminuria. But unlike scarlet fever, it is, as a rule, only developed in the more severe cases of diphtheria, and when the diphtheritic processes are at their height. Malaria, surgical and puerperal fever, carbuncle with septic endocarditis, are all assigned by leading authorities as active causes in the development of acute albuminuria.

In the chronic form many of the alleged causes of the acute are included; but others are assigned, and it is deemed essential to state them briefly. Age, according to most authorities, is given the primary position among the causative agents in producing the chronic form. However, it may be stated it is seen at all ages, and is most common between the ages of forty and sixty. Cold, repeated chilling of the body, and imperfectly ventilated houses, are given as the most common causes.

Bartels, Atkinson, Keiner, Bussy, and many other authorities affirm that malaria is one of the chief causes of chronic albuminuria. Other eminent authorities include rheumatic affections, syphilis, phthisis, gout, and alcohol. Dickinson holds that hereditary tendencies exert a pronounced influence in the development of the chronic form, particularly in families in which the arteries tend to degenerate.

Osler regards lithæmia as an active cause, and with it he groups the intense worry and strain of business, with rapid and overeating, and want of out-door exercise. He also asserts that alcohol and syphilis are contributive, if not active factors in its production. Purdy adds to the active causes the cold, moist regions of the Northern States.

These practically constitute the chief etiological factors, recognized by the leading authorities, in both acute and chronic albuminuria.

However, in the final summing up of the causes, perfect accord exists on this point: that in many of the cases the true cause is unknown. With such a frank confession it is pardonable to call in question the correctness of the alleged causes. Certainly these are not sufficiently clear, direct, and convincing that they should be unquestionably accepted as reliable and final. It cannot be claimed that they reasonably account for the origin of albuminuria and the pathological conditions associated with it.

First, consider the alleged causes: Cold, wetting and chilling the body. From our knowledge of the physiological action of cold and repeated chilling and wetting of the body which might possibly occur in the ordinary vocations of life, can it be possible to conceive that cold and its concomitants *alone* ever produced a case of acute or chronic albuminuria? Cold, with its ever-present false, distorted and undetermined envenomed terrors, should, I believe, have no recognition as a causative factor in either the acute or chronic form of the disease. On the same principle, the cold, moist regions of the Northern States, which Purdy claims as active in causing albuminuria, cannot be accepted as reasonable or consistent.

The position accorded to malaria by Bartels, Bussy, and others in the production of chronic albuminuria is regarded as exceedingly doubtful by some authorities, and I believe with perfect consistency. If malaria were an active causative factor in the production of this disease, would the hundreds of thousands of sufferers from malarial poisoning and malaria all over the southern and western portions of this continent be almost entirely exempt from its insidious attacks, when it is well known that malarial poisoning is a potent agent in devitalizing and predisposing the system to disease, particularly in advanced age?

My personal experience in the examination of 712 males who had chills and fever, or were suffering from malarial poisoning, and all of these between the ages of thirty-eight and seventy years, shows but three cases of chronic parenchymatous nephritis, and two out of the three had a more apparent cause than could be ascribed to malaria. The inference is consistent that these three cases were concomitant with malaria and not caused by it. On this point Osler is the only authority whose experience corresponds with and confirms my own. He states that during seven years, in which several hundred cases of malaria were treated, not *one* case of albuminuria came under his observation that could be regarded as arising from malaria. It is conceded that among the alleged minor causes authoritatively assigned in producing albuminuria, gout, rheumatic affection, syphilis, phthisis, and alcohol may possess predisposing tendencies, but are all wanting in the essential elements of active causes?

Practically speaking, it is the unanimous opinion of the authorities that the specific poisonous products of scarlet fever and diphtheria act directly upon the tissue elements of the kidneys, causing inflammation of these organs, and resulting in acute or chronic albuminuria.

Does not this theory conflict with well-established principles that authoritative opinion can in no wise invalidate? The kidneys, according to anatomical structure and physiological functions, are perfectly designed and pre-eminently adapted and efficient in meeting and performing their specific work, their well-known function being the secretion and excretion of the effete and poisonous products from destructive metabolism. In accomplishing this special work they are inured to contact with poisonous products and even the specific poisons of acute infectious diseases; it is, therefore, unwarranted and illogical to contend that the inflammatory processes and pathological conditions found in the kidneys are primarily due to the direct action of these specific poisons.

But in consonance with well-known principles we should look to more susceptible and highly organized cells and tissue elements for the arcane pathogenesis from which the grosser and more apparent renal and arterial lesions result. In the highly organized, complex and sensitive nerve-cell or neuron of the central, spinal, and vasomotor systems, I am impressed it is to be found.

Each and every function performed in the animal economy is primarily dependent upon the integrity of the cells constituting the organ. A departure from it is the initial stage of every morbid process. In proportion to the complexity and higher organization of the cell-formation, so will be its susceptibility to irritants, abnormal conditions and toxins.

The nerve-cell or neuron is the most highly organized and susceptible cell of the body, and is, therefore, more closely and completely dependent on normal surroundings and upon the source from which its nutrition is derived than any other. And unlike all other cells its food-supply must be continuous, or its constant energy delivering power is at once impaired; and when that results the degeneration of the nerve-cell has begun, and the tissues, depending on a supply of normal food elements which are conveyed to them by the blood and lymph, at once exhibit a departure from a normal condition, to be immediately followed by gross pathological evidences.

The highly important functions of the vasomotor system in the maintenance of not only the integrity of the tissues in which are revealed the grosser lesions found in albuminuria, but in the neuron itself, have not been adequately appreciated and fully realized. The influence of the nervous system on metabolism is dual. It acts indirectly upon the blood vessels, and controls the amount of blood supplied and affects its pressure. It is more than probable, the special nerves, the trophic nerves, materially influence the metabolism or nutrition of the tissues. That these nerves do influence directly the transformation of matter within the tissues by stimulation of nerve-centers after cessation of the circulation is generally admitted, and has a direct bearing upon the point under consideration.

All of the numerous, I might say endless, experiments upon the kidneys teach most positively that disturbances in their circulation produce immediately functional derangement and, if continued, organic lesion. Whenever the volume and rapidity of the blood current fall below that which is necessary for the nourishment and life of the epithelium covering the blomeruli and tubes, albumin appears.

Over-stimulation, irritation, or lesion to portions of the floor of the fourth ventricle of the brain or fibers

passing from its immediated vicinity at once affect the circulation of the kidneys; and if persistent and severe, is quickly followed by all the pathogenic evidences of acute albuminuria. In the initial stage, particularly in the chronic form, our attention should be early directed to the nervous system, if we may hope to arrest its development. Indispensable to success in the treatment of the disease is a correct knowledge of its etiology and pathology. The prodrome of parenchymatous and interstitial nephritis evidences themselves in a most direct and positive manner in disturbances and derangements of the whole nervous system. At every stage, from the initial until the final termination, the varied series of nervous manifestations, renal and arterial pathological conditions, if properly interpreted, clearly and unmistakably point, in my opinion, to a nervous origin.

The inferences I am induced to draw from this brief and imperfect review are as follows:

That all the alleged causes of acute albuminuria, with the exception of the toxins of scarlet fever and diphtheria, are devoid of specific pathogenic power, and should not be accepted.

That the opinion of leading authorities that these toxins primarily act on the tissue elements of the kidneys, causing inflammation of these organs and resulting in acute or chronic albuminuria, is unwarranted and controverted by anatomical and physiological principles.

That in the highly organized and susceptible nervous system, with its primary, perpetual and controlling dominion over metabolism, is to be found the primary morbid process from which all the other grosser lesions are the direct result.

That as in acute albuminuria the true etiological factors are the *toxins of scarlet fever* and diphtheria, so in the chronic form *auto-toxins* are the active pathogenic factors, and their specific action is primarily evidenced on the nervous system.

That severe mental strain, intense worry, deep and profound sorrow, the silent grief of domestic and financial misfortune, are the most active predisposing causes in albuminuria.

That the obscure and constant nervous manifestations are more reasonably accounted for on this theory than upon any other.

That the pathological conditions found in the renal organs, arterial system, brain, spinal cord, and sympathetic ganglia are local manifestations of a deranged and diseased nervous system, developed by auto-intoxication and resulting in deranged metabolism.

THE *Bookman*, published by Dodd, Mead & Co., New York, one of the ablest literary magazines of the day, and, perhaps, the most extensively read by those who wish to keep in touch with the best literature, announce, for publication, a serial story for 1900, "Stringtown on the Pike," by a comparatively new writer in fiction, John Uri Lloyd. Dr. Lloyd has long been known to the medical profession and in the scientific world generally for his thoughtful and brilliant works in botany, chemistry, materia medica, and other departments of natural science. The story is thoroughly American, written with all the fascination of the novelist, with the charm and beauty of diction of the trained scientist. We anticipate for "Stringtown on the Pike" a popularity second to no other novel published this year.

MODERN VIEWS OF THE KINSHIP OF NEUROTIC DISEASES AND THEIR RELATION TO THE INSANE IMPULSE.

BY J. M. FORT, M.D., PARIS, TEXAS.

IN my judgment, the difficulty which arises in the minds of very many medical men, and which acts as a barrier to the comprehension of what we call nervous diseases, is the old metaphysical or clerical idea which has come along down the stream of time from ages long past; that is, that the mind or consciousness is an immaterial part of our nature, an ideal something having in some unknown way its habitat or dwelling-place in the supreme nerve centers of the brain substance. It is true, as yet it seems to be a process out of reach of the human mind to comprehend the production of thought. No man, however, can form a just conception of the reasoning, the amount of will power exercised, or the confusion of ideas and of feelings prompting the actions of the man whose supreme mind centers are organically or functionally disordered, unless indeed he regards the brain as one of the essential organs of the physical man, and the mind as its material product.

I, therefore, regard it as essential at the outset of this discussion, and in the investigation of this subject, to determine, first of all, what is mind? In answer to this question I will say that there is now almost a unanimous consensus of opinion among modern medical writers upon this subject. All scientific investigators who have given the physiological problem special study, aided by large experience in the management and treatment of this class of diseases, are agreed that thought or consciousness is the product of the physiological action of that wonderful organ we call the brain. We may say therefore—and in contending for the proposition we have both reason and science to sustain the position taken—that mind is the result, output or production of the function of the supreme nerve centers of this organ.

Let us suppose, says an eminent writer upon this subject, "that we remove a portion of the bony covering of the brain matter and make a rhythmic series of pressures and relaxations upon the soft substance of the brain, we will find at every pressure the faculties of perception, thought and action suddenly vanish, and at every relaxation of pressure they are restored."

Again, as every physician has seen an ordinary concussion of the brain, hours and even days may elapse "in which no experience of the individual is registered in consciousness." In suspended animation we witness the same phenomenon. Now I would ask the metaphysician, if mind be immaterial, and the brain substance only its habitat or dwelling place, where does it go during these periods of insensibility, or why should there be periods of insensibility at all? One trouble, or rather error, in reasoning upon this obscure subject arises, in my opinion, from confounding the principle or force we will call life with the mind. As I see it, life is a vital principle which presides over the functions of the entire system, including the brain and the nervous system in its entirety. A learned scientist (Mr. Herbert Spencer) defines it to be: "The definite combination of heterogeneous changes, both simultaneous and successive, in correspondence with external co-existences and consequences." Now when we divest this definition of its somewhat obscure verbiage, it amounts to nothing more or less than that life is perpetuated in each and every organism by the appropriation of external things to the building up and keeping in normal condition the phys-

sical machinery of the animal and vegetable organism. This principle of life pervades all nature, and its manifestations are all we know about it.

I do not contend, however, that the brain is the only organ in the animal economy concerned in the function of the mind; on the contrary, there is not an important organ in the body which is not in close relation with the brain by means of nervous communication. Every physician is aware of the physiological sympathy of the nervous parts or organs in the commonwealth of the body, and knows them to be so close and intimate that it becomes necessary in the physiological study of the mind to regard it somewhat in the light of a function of the whole organism.

No one, I dare say, who has kept pace with the progress of scientific medicine for the past quarter of a century, and has studied and treated mental diseases, doubts that in so doing he has to do with a disordered function of a bodily organism. Whatever opinion one may hold concerning the essential nature of mind, he is forced to admit that its manifestations take place alone through the nervous system, and that these manifestations are affected by the condition of the nervous parts which minister to them. If these are healthy, the manifestations are normal; if, on the contrary, they are diseased, they become abnormal. Insanity, which stands at the head of nervous diseases, and which all modern writers class in the category of nervous diseases, may be defined as a disorder of the brain, producing disorder of the mind; or, perhaps, I should say, it is a disorder or derangement of the supreme nerve centers of the brain, the special organ of mind, giving as a result derangement of thought, feeling and action, together or separately (as the case may be), of such degree or kind as to "incapacitate the individual for a just appreciation of the relations of life." Again, mind may be defined physiologically as a general term, denoting the sum total of those functions of the brain which are known as thought, feeling and will, and by disorder of the mind is meant disorder or derangement of those faculties.

Now, how certain molecular vibrations or combinations of vibrations give rise to thought or consciousness is beyond our comprehension at the present day. The utmost we can affirm is the association of these two classes of phenomena; of their physiological bond of union we must confess absolute ignorance; and yet, that we have such a union in the brain substance no one can deny.

The physiologic doctrine of the physical basis of the mind, I may say, is now beyond dispute among the most enlightened, although some of the most ardent philosophers of the Platonic school still regard the mind as an entity, and view and consider it apart from the brain. Still the great mass of scientific men, both scientists and physicians, who have studied the phenomena of the mind, from the standpoint of disease, will recognize its physical basis, and to them mind is the consequence of a long line of new nervous growths, the morphologic development of the senses, the intellect, the emotions and the will. That the nervous system is the instrument of the mind is the belief which the new physiology has demonstrated to be true.

Another point of vital interest, and of the utmost importance in considering this subject, is to remember that man is not like many of the lower order of animals born with developed faculties, having the capacity of at once bringing into full play their mental functions; on the contrary, a long and patient education is necessary to develop the functions with which he is endowed. Such education being on the physical side a gradual develop-

ment of the nerve centers which minister to the mind and its manifestations.

"It requires patient practice to teach him how to walk and talk, while to think accurately is so hard a task that many of us go to our graves without ever having acquired the power of doing so."

It has been held and believed at the present day that the mind of the infant is as a blank sheet of paper, upon which by education we may write what characters we please; that the brain is a pliant material, capable of being molded, formed and impressed into whatsoever character one may choose to make it. Never was a more erroneous idea entertained; great as the power and influence of education is in the formation of character, nevertheless, it is a "sternly limited power." It is limited first by the inherited mental faculties of the individual nature, and can only operate in this larger or smaller circle of necessity. Then, again, it is limited by race and species. "In the vast majority of instances education can only determine what is predetermined in the organization of the nervous system and the bodily machinery connected therewith."

Education, no matter how elaborate and painstaking it may be, can never make mental potentialities; at best it can only use such material as has been given to the individual by heritage. It is not every boy born into the world that can be developed into a Socrates or a Gladstone. It is true, the influence of hereditary antecedents upon character has been almost universal, yet I must be allowed to say that it has never received the serious consideration its importance demands. This is especially true when we consider its important bearing upon the moral responsibility of the individual. It should ever be borne in mind that moral attributes are the last mental accomplishments acquired. They are the product of social influences, and as such belong to or are developed in the most enlightened, refined and cultivated races. As the last acquired attributes of the human mind, they are the first to forsake the individual when a retrograde movement is inaugurated, let that movement be brought about as it may. This act is clearly demonstrated in all cases of cerebral degeneration, such as dementia or the pathological results of morphia, cocaine and other narcotic poisons. These signs of moral perversion are, as a rule, the first symptoms of mental derangement which may in its further course go through all degrees of intellectual disorder, and finally end in destruction of mind with visible destruction of nerve cells which minister to mind.

Unfortunately for this class of human beings, laws are made and enacted by the genius of an educated and enlightened civilization. These laws are enforced and punishment inflicted in the majority of instances in proportion to the offenses, no regard whatever being paid to the mental capacity, acquired attributes, or moral development, or the capacity of resistance to unlawful impulses, on the part of the individual. And yet there is no law of our being more certain than that in the vast majority of instances criminals and lunatics are "born ready-made." They are as much manufactured articles as are steam engines and threshing machines. They are neither accidents or anomalies in nature, but come into being and to their destiny in obedience to the law of heredity—a law they can no more avoid than the Ethiopian can change his skin or the leopard his spots.

It is true we are yet without any exact knowledge of the ways and means of hereditary action; we see it every day, however, and know it is a fact. We know that individuals do inherit a positive tendency to a particular nervous disease from which one or other of their parents

or ancestors has suffered. This inheritance is as sure and certain as the inheritance of the color of the hair or eyes of the parent. We know further that the offspring of persons who have suffered from some nervous disease not infrequently inherit a liability to an attack of some other nervous disease than that which has given them their neurotic heritage. Every intelligent physician, especially such as have paid particular attention to this class of diseases, will bear testimony to the fact that there is a kinship between neurotic diseases by virtue of which it comes to pass that they undergo transformation through successive generations. For instance, in children descended from families in which there has been more or less insanity, we not infrequently meet with diseased phenomena that seem to be hybrids, i. e., a mixture of chorea and epilepsy or a combination of chorea and insanity, which, when further developed, finally drift into one of these more definite ruts of convulsive action.

In calling chorea and epilepsy convulsive diseases it is meant that they are diseases in which the nerve centers that preside over movements, being deranged, have lost that power of co-ordination and subordination which they exercise or manifest in their normal or healthy condition or function. In this manner chorea and epilepsy exhibit a very close relation to insanity. Again, every experienced physician knows when he meets with a case of violent neuralgia recurring from time to time in obscure manner, that is, without any discoverable morbid cause, he may predicate insanity in the family with almost as great confidence as if the patient were actually insane.

This relationship of nervous disease is perhaps more especially noticeable, but not more truly existent, in epilepsy and insanity. The descendant of an epileptic parent being almost if not quite as likely to become insane as to be an epileptic, and one other of the descendants of an insane parent very frequently suffers from epilepsy, chorea, neuralgia, hysteria or other nervous trouble.

It is in strict accordance with the view taken of homicidal impulse as a convulsive idea springing from a morbid condition of nerve element and comparable with a convulsive movement, that it should most often occur where there is hereditary predisposition to insanity. This may not be the case in some instances, but in the majority of cases there is such a neuropathic state. It is a remarkable fact, yet no less a fact, that the convulsive energy of homicidal impulse is in very many instances preceded by a morbid sensation beginning in some part of the body, and mounting to the brain very like that which, when preceding an attack of epilepsy, is known as "aura epileptica." It should be borne in mind that it is with these so-called functional nervous diseases, such as epilepsy, chorea, neuralgia, etc., that insanity exhibits the most marked relationships. We do not find this the case with the organic diseases of the brain matter, such as apoplexy and dementia, in which cases we are able to detect visible deterioration or degeneration of the structure of the nerve centers.

A distinguished neurologist, writing upon this subject, says: "Placing insanity in the category as a nervous disease with chorea, which has not inaptly been called 'an insanity of the muscles,' we perceive that a deranged state of the motor centers destroys co-ordination of movements and occasions a spasmodic or convulsive mental action, having, perhaps, the same pathological condition."

This relationship is so intimate that some cases of insanity may truly be described as chorea, or in epilepsy,

or convulsive disease of the mind centers, the derangement being in those centers whose functions are not motor, but mental, and whose derangements or disorders display themselves in the convulsion of ideas instead of muscles.

Another authority says: "It is unquestionably true that instances now and then occur in which the disorder is transferred suddenly from one set of nerve centers to another, the old symptoms in part or totally ceasing and quite another, a new order of symptoms, supervening." For instance, a severe neuralgia may disappear and the patient show symptoms of some form of madness. The morbid condition, that is, the perverted function, having been transferred from the sensory centers to the mind centers, or conversely, the recurrence of severe neuralgia or convulsions may terminate the madness.

Perhaps I may say the two diseases nearest akin in this respect, and in which transformation most frequently occurs, are epilepsy and insanity. All recent authorities sustain the assertion that the most important conditions which are precedent of an outbreak of an insane homicidal or suicidal impulse, are the insane and epileptic neuroses, in both of which there is a tendency to convulsive action. It is in strict accordance with the view now taken of homicidal impulse as a convulsive idea springing from morbid conditions of nerve element and comparable with a convulsive movement that it should most often occur in individuals where there is hereditary predisposition to insanity. This is not always the case, however, but in the majority of instances there is such a neuropathic state.

It is not infrequent in asylum epileptics after having a fit or a succession of fits there follows a brief attack of furious mania, which is known as epileptic mania. On account of its violent and destructive character it is regarded as the most dangerous form of insanity. Then, again, this mania may precede the attack of epilepsy and correspond in mental condition with what is known as epileptic vertigo or petit mal; or it may occur in lieu of convulsions of what is called the grand mal, or characterized by what is called epileptic dementia.

We find many of these cases detailed in asylum reports. Among others, Esquirol reports a case occurring in a Swabian peasant, aged 27 years. This man had been subject to epileptic fits from his eighth year to his twenty-fifth, at which time a metamorphosis took place in the disease. In place of epileptic convulsions the man found himself seized with an irresistible impulse to commit murder. He felt the approach of the paroxysm sometimes for several hours, at other times for as much as a day before it came on, and begged to be bound lest he should commit a crime. "When it seizes me," he said, "I must kill some one, were it only an infant." This man was devotedly attached to his mother, and when he felt the approach of a paroxysm he would cry out in a loud voice: "Mother, save yourself, or I must strangle you."

I record another instance. A well-to-do country gentleman, aged 45, with no seeming indication of the slightest disorder of his reasoning faculties, and in the enjoyment of good health. Nevertheless, in the night he awoke suddenly with the thought of killing his wife, who was lying by his side. He left his bed and walked up and down his room for an hour, after which, feeling no more disquietude, he lay down and went to sleep. At intervals of three weeks the same idea occurred to him on three different occasions, always in the night. This man had been married twenty years, had never had the least unpleasantness with his wife, to whom he was devotedly attached. This idea seizes him only during

sleep. He was greatly troubled about his condition, and left off staying in the house with his wife, fearing that he might not have the will power to resist the impulse and kill her. He is willing to do anything to get deliverance from his affliction.

It is generally admitted that the most desperate instances of homicidal impulse are met with in connection with epilepsy. In not a few instances it may be masked epilepsy, the homicidal impulse taking the place of the ordinary epileptic convulsions. In these cases the diseased action has been transferred from one set of nervous centers to another. As a natural consequence, instead of there being a convulsion of muscles the patient is seized with a convulsion of ideas, as I have before described.

M. Morel, a distinguished French neurologist, in classifying insanity in relation to its etiology, gives a group of cases occasioned by the transformation of other neuroses, and includes hysteria, puerperal, epileptic and hypochondriacal insanity. These neuroses undoubtedly exercise a special influence upon the ideas and acts of the patients who suffer from them; the kind of derangement in each case reflecting, to some extent, the fundamental character of the neurosis of which it is a transformation. This classification has been objected to by some neurologists. I mention it simply to show the close relationship and the recognized transformation of many of this class of diseases.

There is another degenerate condition I desire to call attention to in this connection, namely, dipsomania. A host of facts might be brought forward to prove that drunkenness in parents, especially that form of drunkenness known as dipsomania, which breaks out from time to time in uncontrollable paroxysms, is a cause of idiocy, suicide or insanity in their offspring. It would seem to be a truly nervous disease displaying periodicity in its outbreaks, as other diseases. It undoubtedly exhibits close relation to insanity, not only in the fact that when occurring in one generation it often becomes the occasion of mental derangement in the next generation, but conversely in the fact that insanity in the parent may occasion dipsomania in the offspring. Dr. J. T. Crothers, Hartford, Conn., gave some very interesting and conclusive cases upon this subject in a paper read before the last meeting of the American Medical Association.

In addition to all this, every practitioner of medicine knows that we have a class of cases designated sympathetic or reflex insanity, which includes cases in which the primary disturbance or seat of disorder is not in the brain, but in some other organ of the body, the brain being secondarily or sympathetically affected. The very fact of the appearance now and then of this class of cases shows the close relationship and sympathy which arises between the brain and the other organs of the body. That these reflexes do produce a degree of insanity which may be periodic or permanent is beyond question. Dr. Jos. Eastman read a paper before the American Medical Association in which he relates the following cases. A case in which a lady was cured of clitoromania by removing a section of the pudic nerve in connection with both ovaries. Another case, a young lady of wealth, refinement and culture, was a monomaniac. Her ovaries had been removed with the hope of effecting a cure, but no good result until a section of the pudic nerve was made, which resulted in a perfect cure. Another case of insanity, which had been confined in an asylum for a year or more and discharged as incurable, was restored to perfect health and sanity by the removal of a kinked fallopian tube. These cases are more frequently met with in neurotic parents. We are

bound to admit that there is no other influence in the human economy that has so much to do with the general system as the pelvic organs of the female.

In this intimate nervous union and sympathetic dependence for healthy action we find an additional evidence for alleging that mind is a product of function. Among such physiological and pathological conditions we reckon the physical development of puberty with the constitutional changes which occur at that period, in the mental and bodily irregularities of function in women. (In the Section on Gynecology in the American Medical Association this reflex insanity was spoken of by all or almost all the gynecologists present.)

The following case in point came under my own observation. A married lady, about thirty years of age, was thrown from a horse. She was some eight months advanced in pregnancy at the time. She struck the hard ground with such force that the uterus and appendages were forced downward to the outlet, and the head of the child protruded through the vulva. She was taken up and cared for, the dead child being born soon after the fall. After a tedious recovery from the immediate effects of the fall she was attacked with hysterical mania, which existed for several days at each return of the menstrual flow. This was testified to by the physicians who usually attended her during these periods. Some twelve months after the fall from her horse and at the outset of her menstrual period, this woman seized an ax and buried its blade in the brain of her husband, who at the time was asleep upon a lounge near the door through which she was to pass on her way to the kitchen. As soon as she made the stroke, she uttered a scream and said, "It was not me that did it, but something in me made me do it."

I was present at the trial of this woman for her life. The medical testimony introduced in the case failed to connect the misplaced uterine appendages with the subsequent reflex mental condition at her menstrual periods, nor did they recognize the true mental condition of the woman. In the cause of humanity and justice I requested to be put upon the witness stand, and was informed by the jury after the rendition of their verdict that my testimony saved the poor woman's life.

In many instances this impulse, both homicidal and suicidal, becomes a fixed and impelling force, persistent and ever operative, and finally overcoming the will as the disease giving rise to this impulse progresses.

It may be argued that an individual should not be considered mad or irresponsible because the idea of killing another person comes into the mind, more especially when the moral attributes are normal and they recognize the atrocity of the crime. But when it becomes a fixed morbid idea that sits enthroned in the mind day by day, gathering force and power until finally it overrides the will and reason, a homicidal tragedy is enacted against some one for whom they cherish no ill will. Surely, in all such cases we must say that the mental functions are not only unsound but diseased.

The real question to be determined in all these cases is whether the impulse was irresistible or whether it was only unresisted, and this is a question which must be answered from a careful consideration of the facts in each particular case.

The homicidal impulse, and, I may say, insane delusions, when they are present in the mind are proof that the individual cannot reason soundly. He will reason insanely, feel insanely and sooner or later act insanely. Their foundation is not laid in reason, but in disease, and they hold their ground in the mind just as a cancer or other morbid growth holds its ground in the body. It

is hard to dive into the depths of a diseased mind, and quite impossible for a sane mind to realize what passes there. Their thoughts and feelings are not as our thoughts and feelings. Many of these unfortunate people live on the margin of a borderland between normal reason, between sanity and insanity. This line of separation is not easily defined. The moral responsibility of the unhappy people inhabiting the borderland will assuredly not be made as long as medical experts cling to the metaphysical and theological conception of the mind. Another point the medical expert should always bear in mind, that is, "that a person does not, when he becomes insane take leave of his human passions nor cease to be influenced by ordinary motives," and when he acts from one of these motives he does not by doing so leave off his insanity; if he kill some one out of revenge for imaginary injury, he is still a madman taking his revenge.

"OXYGENATED CHLOROFORM."

BY J. HUBLEY SCHALL, M.D., *BROOKLYN, N. Y.

SINCE the introduction into this country of oxygenated chloroform in the year 1893 I have had considerable experience in the administration of this admirable mixture of oxygen gas and chloroform vapor, and the results have been highly satisfactory, as shown in the following case:

Female, aged forty-five years, very anaemic and emaciated, with a marked mitral murmur. The microscope showed granular casts, blood, pus, pelvic epithelium, crystals of oxalate of lime and triple phosphates.

Operation: Nephrectomy. Pulse before the operation, 114; respiration, 32; pulse during operation less rapid and fuller in volume. Time to anaesthetize, two minutes.

The recovery from the anaesthetic was rapid and uneventful, the patient being under complete narcosis nearly two hours.

Without the oxygenated chloroform I would have refused to anaesthetize the patient, as the risk would have been exceedingly great.

It gives me pleasure to state that the Cumberland Street Hospital of this city was the first institution in New York to use and demonstrate the practical utility of oxygenated chloroform when it is used as an anaesthetic.

The apparatus which was used for its administration in the operating room is simple. It is composed of a cylinder of pure oxygen, from which, through a rubber tube, the gas is passed into a bottle containing a given amount of chloroform, and from this, by another tube, oxygenated chloroform is carried into an inhaler. This inhaler consists of a nickel plated masque with a rubber face, which covers the nose and mouth; on the upper surface is a button valve for expired air. It fits closely to the face, is light and not clumsy to handle.

A very neat and convenient apparatus is the one devised by Northrop. It consists of a polished wooden box, 18 inches long, 7 inches wide, and 7 inches deep, containing a small steel cylinder holding 40 gallons of pure oxygen gas, provided with a small wheel for controlling the pressure; a graduated bottle, the required length of rubber tubing and an inhaler. There is room in the box for carrying a hypodermic syringe, Vulsella forceps, stimulants, infusion apparatus, mouth gag, etc.

Method of administration: Put an ounce of pure chloroform into the graduated bottle, attach the tube to

*141 St. Marks Ave.

the cylinder and tubulatures in the cork, pass the tube leading to the inhaler through the opening. Pull out the cylinder and fix it by tightening the screw. Turn the wheel carefully until a gentle but continuous current of oxygen bubbles up through the chloroform. Apply the mask directly to the patient's face, making it fit snugly. The deeper and fuller the patient breathes, the more easily and rapidly will be the state of narcosis produced.

As the patient approaches the unconscious state turn on a stronger current of oxygen. If rigidity ensues the current should be increased.

When complete anaesthesia is produced it can be maintained by the continuous administration of a small quantity of the anaesthetic.

One great advantage of the anaesthetic is that there



is a proper admixture of oxygen with the vapor of chloroform, so that the patient does not experience that smothered sensation which arises from the administration of other general anaesthetics by the ordinary methods, consequently the anaesthetic gives rise to little or no struggling or disturbance in the respiratory or cardiac functions. Another advantage is that it enables us, after the anaesthesia has been completed, to give a few inhalations of pure oxygen gas, thus cleansing the air-vesicles of the lungs of the chloroform vapor.

Complete narcosis is produced in less time than can be done by chloroform, bromide of ethyl, or ether. The shortest time required to bring about complete narcosis was one minute.

Under oxygenated chloroform the patients presented a healthy color of the cheeks and lips, a condition uncommon with other general anaesthetics.

Vomiting, like that common to chloroform, bromide of ethyl and ether, is not frequent during or after the administration of oxygenated chloroform; if it does occur it can be controlled by inhalations of menthol acetate.

Recovery takes place quickly. With inhalations of pure oxygen and vaporized aromatic spirits of ammonia, the patient regained consciousness in from two to six minutes. In no case did the patient complain of exhaustion, nor have I ever noticed any delirium or sign of intoxication after the patient had been placed in bed.

The amount of chloroform used—even where time and great care was taken in those cases suffering from cardiac and nephritic lesions—was comparatively small.

I could not determine the amount of oxygen used in each case, as the cylinder contained forty gallons, and would last from four to six hours of anaesthetizing.

The advantages worthy of consideration in connection with the use of oxygenated chloroform are as follows:

I. Complete anaesthesia is produced in a shorter time

than can be done by chloroform, bromide of ethyl or ether.

II. The insignificant amount of chloroform used.

III. The pleasing aspect of the patient's countenance, instead of the death-like pallor attending the use of other general anaesthetics.

IV. Absence of cyanosis and little, if any, nausea.

V. Tendency to quickly regain consciousness, and the freedom from cerebral excitement afterward.

VI. Little shock.

VII. Its comparative safety where other general anaesthetics seem contraindicated.

In experiments upon animals we found that a poisonous dose of oxygenated chloroform caused the following condition:

The respirations become feeble and intermittent, and finally cease altogether; the arterial pulsations become excessively weak, but persist longer than the respirations, the left side of the heart being the last to die, death being produced by paralysis of the respiratory centers in the medulla oblongata. The heart of the animals experimented upon were found to be in motion

long after the thorax was opened, while the respiratory movements had ceased some minutes before. A number of the animals, which were apparently lifeless, could be quickly resuscitated by the introduction of a tube into the trachea and through it pure oxygen gas forced into the lungs, combined with artificial respiration.

Thus in collapse under oxygenated chloroform, the free administration of oxygen gas in connection with

artificial respiration would doubtless prove an efficient method of resuscitation in human beings.

It may be well to state that notwithstanding the introduction of oxygenated chloroform to the profession as an anaesthetic has been credited to Northrop, it was discovered by an Englishman, and used in England long before the year 1893.

The menthol acetate solution which I have mentioned in this paper is an original combination of my friend, Dr. H. G. Geisinger. It is an efficient anti-emetic in controlling vomiting following general anaesthesia. It is composed of menthol, gr. X; glacial acetic acid, one drachm; alcohol, one ounce; distilled water, one ounce.

A piece of gauze is saturated with the menthol acetate solution and placed over the patient's mouth and nostrils, care being taken to allow all air inhaled to pass through the meshes of the saturated gauze.

SURGICAL INTERVENTION IN APPENDICITIS.

BY DR. S. G. CROFT, PHILADELPHIA.

THE clinical report of the following case may serve as a text on this interesting subject. This case was operated on some days ago for gangrenous appendicitis, an abscess with uncertain walls was found, but it seemed to be in relation with the general peritoneal cavity. The appendix was removed and the cavity drained. Pus kept forming, and as it poured out day after day it became evident that it had dissected back of the colon and that it could not be drained from the front. Accordingly an incision was made in the right loin, and a large abscess found and evacuated, through and through drainage being applied. Since that time the recovery has been rapid and the patient is now about

to leave the hospital. Occasionally it is well to drain from the loin at the start if there is strong reason to believe that pus is forming in the right kidney pouch, the lowest point of the peritoneum when the patient is lying in the dorsal position.

Very much is being said about appendicitis in these days. Physicians and surgeons can argue about any other subject with equanimity, but when appendicitis is mentioned each one feels that he is being attacked personally. No one has a monopoly on appendiceal operations, however, and no one should treat it by fixed rules.

Some people have what may be called an appendiceal delusion; almost every abdominal symptom that comes up being referred to the appendix as its cause. For my own part I believe that many cases of appendicitis are due to diseases of the intestine. There are many causes of the disease as trauma, typhoid fever, colds, twisting of the appendix, etc., which weakens the resistance of the organ and allows bacilli to act, but the average man who has the first attack has had for some time some derangement of the intestines. A catarrhal condition of the colon extends to the appendix, the reduplications of mucous membrane do not allow fecal elements to go out of the appendix properly, and there arises what has been called constipation of the appendix. There is weakening of the resistance of the organ, and finally the epithelium is shed at places, and although this is not yet appendicitis, it very likely follows.

The symptoms of the disease are not always the same. Some cases come on with overwhelming suddenness and develop with great rapidity. This fact has been used as an argument for early operation in all cases, but I do not think it should be so applied. Dr. Keen has stated that the physician who first sees a case should at once call a surgeon in consultation, and if the surgeon sees the patient first he should call in a physician.

An ordinary case of appendicitis begins with crampy, paroxysmal pain in the region of the umbilicus, grows worse and worse, extends to the right iliac fossa, where it becomes constant and often of a violent type. This is usually associated with excruciating tenderness, not always exactly at what is known as McBurney's point, as he has been misquoted in regard to this. McBurney stated that the tenderness was confined to some one small point, but this was not always in the same exact location. Another symptom is one-sided abdominal rigidity, especially in the lower and outer quadrant of the right rectus. A certain amount of distension is also noted. Dr. Hearn has called attention to another point in diagnosis which is that pressure on the left side will cause pain in the right if appendicitis be present. The pulse is always rapid, and there is not unusually vomiting, but this is very rarely persistent, as it is in gallstone cases, it often being confined to nausea alone. The blood, which should always be examined, shows leucocytosis if pus be present. A point to which attention has been called recently is that after perforation has taken place this leucocytosis is lost.

When the diagnosis is made will the surgeon go in without any more thought as to the outcome? That is not the teaching of the best authorities. If the surgeon sees a case with practically the symptoms outlined above, although these vary greatly in different cases, he does not operate at once. Instead, he sees the case six hours later, being prepared to operate at once if necessary. If the patient is not any worse the surgeon comes back at the end of another six hours. If the symptoms have not been aggravated during these twelve hours it generally proves to be the first attack, and the patient will go

safely through to the interval. If, however, at the end of twenty-four hours the condition is the same, apprehension should be felt, and if at the end of thirty-six hours there are no distinct signs of improvement an operation should be done. It may be said that if in serious doubt at any time it is best to operate, it being safer to err on the side of operation than on the other side. Of course there are cases with chills, violent sweating, pain suddenly discovered, rapid pulse, subnormal temperature, etc., when operation should be done immediately.

Some operators and physicians say they can locate the appendix in nearly every case by palpation. I do not claim to be able to do this, and in an acute case this is a dangerous and unsafe proceeding, and the appendix should not be palpated in the endeavor to exactly locate it.

Not an inconsiderable number of operative cases are followed by ventral hernia. Where pus is found the incision must be made to suit the case regardless of hernia, everything giving way to the immediate necessity of the operation. In an interval case or a chronic attack more time can be taken and precautions used to avoid hernia if possible. For these cases I prefer McBurney's method of separating each muscle in the line of its fibers. It is better to deliver the head of the colon if possible and remove the appendix while it is out of the abdominal cavity. When pus is suspected in any case the general abdominal cavity should be thoroughly walled off with gauze as a protection. Professor Keen has stated that he is not an advocate of delay in all cases, but he does object to operations upon patients when they do not need it. Certain cases need the promptest attention. For instance, in a case of Keen's, a man was seized with an attack at about three o'clock in the morning. He was seen at ten and operated on at twelve. But not all need this. Out of a series of three hundred necropsies reported, one hundred showed evidence of having had appendicitis at one time, but had died from other causes. It is well never to allow a patient to have more than two attacks. This persistence shows that there is permanent mischief.

I wish to narrate a case seen a few days ago to show the difficulty of diagnosis at times. A man of thirty-five when seen had a temperature of 102.5°, pulse of 160°, his belly was distended until as tight as a drumhead, and there was tympany everywhere. There was no special pain in one region, the whole abdomen being painful, but not markedly so. There had been no bowel movement for five days. The attack had begun with violent pain in the epigastrium, going to the lumbar region. For two or three days there had also been bloody urine. It was not clear what was causing the intestinal obstruction. The man was going to die if let alone, and operation offered but little hope, but this was decided upon. When the peritoneum was reached a few air bubbles were seen, and then it was known that perforation had occurred and appendicitis was suspected.

When the abdomen was opened there were found universal adhesions and pus everywhere. An inch and a half of the appendix was gangrenous, and fecal matter was pouring through it into the abdomen. The man died some time after the operation. Here, then, was a case of appendicitis which could not be recognized from the history. It began with bloody urine, which might have possibly been from a stone in the kidney, but there was no reason for suspecting that such was the case. I mention this case to show the difficulty sometimes encountered when dealing with the disease.

THE RANK OF CÆSARIAN SECTION, SYMPHYSEOTOMY, PREMATURE LABOR AND VERSION COMPARED.

BY J. HERRINGTON BEYNON, M.D., NEWARK, N. J.*

TO the question, How should symphyseotomy rank with Cæsar section and premature labor, and should it not in many, if not all relative indications, displace the former, and act as an aid to, if necessary, but never displace the latter, except when demanded by the mother? the writer unhesitatingly answers, Yes.

The selection of the best mode of delivery in contracted pelves is one of the most difficult problems in obstetrics, the importance of a thorough understanding of which is evident if we are to believe with Winkel that 10 per cent. to 15 per cent. of child-bearing women have contracted pelves. He says, however, that in only 5 per cent. of these is the obstruction serious enough to be of importance. Statistics authorized by Davis are higher. Of 466 cases examined by him and his agents, 153 showed marked abnormality, or 32 per cent.

Just here let us remember that a variation from the average measurements in the pelvic diameters, of two centimeters, more or less, constitutes an abnormal pelvis. This fact, taken together with the increased diameters under symphyseotomy, conclusively demonstrates its fitness and adaptability, as the operation par excellence, with which to displace the relative indication of Cæsar section in all cases where the conjugate measures seven centimeters or more.

According to the statistics of the civilized world, symphyseotomy is about one-half as dangerous as Cæsar section; an operation first performed by Trautman in 1610, but is probably much older, and was in all likelihood known—particularly the cow-horn variety—to the primitive tribes and nations of remote antiquity, generations before David drove his flocks to pasture over the green-clad hills of Palestine.

The high maternal mortality of Cæsar section, which according to Harris is 30 per cent. to 40 per cent., taken together with the equally high 33 per cent. foetal death rate of premature labor, has induced obstetricians to look for some other mode of delivery in pelvic contractions where the conjugate measures between 6.5 and 9.5 centimeters, thus displacing the relative indication of Cæsar section and premature labor by a safer and more desirable operation, supposedly that of Siegaunt, first performed on the living woman in 1777, but afterward—owing to failures in the hands of the inexperienced—fell into ill-repute and was practically forgotten until its rehabilitation by Morasini in 1866.

Subsequently this operation has been regarded with alternating favor and opposition, and was not employed in the United States until 1892, when Dr. Harris called anew to the successful results obtained in properly selected cases.

Let us review the facts and determine if we can the true indications of symphyseotomy. According to many of the French authorities, symphyseotomy is destined not only to replace the relative indication for Cæsar section and premature labor, but of version as well.

They claim that symphyseotomy at term within the measurements given, 6.5 to 9.5 centimeters, is a procedure of certainty, whereas in the production of premature labor there is much uncertainty, owing to possible error in calculating the duration of gestation,

therefore the liability to err in selecting the correct date for induction.

More or less of this is true, but the writer will not admit or agree that such a hypothesis allows sufficient grounds for subjecting a woman to a 10 per cent. to 15 per cent. risk in order to avoid a possible foetal death rate of 33 per cent. *Symphyseotomy is not an alternative of premature labor, except in those cases where the mother expressly and absolutely demands it.* On the contrary, premature labor has now, and will have for years, a definite place in the category of obstetrical operations that no amount of enthusiastic shibboleth from professional sources can overcome or destroy. Some day, when operative skill and technique have reached their acme, then and then only may symphyseotomy take precedence, and premature labor be relegated to second place.

Hirst says symphyseotomy should be the alternative of version in flat, contracted pelves. That a woman with a conjugate of seven centimeters or more should be allowed to remain in labor 24 hours unless thinning of the lower segment of the uterus occurs. If the head is not above the average size, a fact readily determined by Muller's method of palpation, and not engaged at the expiration of this time, action traction forceps should be applied and an attempt made to engage the head. He claims that after some twenty minutes traction with justifiable force, the head fails to engage, the choice should be made between version and symphyseotomy, version sacrificing one-third of the children but not endangering the mother, symphyseotomy giving us a living, unharmed child, but hazarding the life of the mother. Here, again, the weight of one or both parents must be felt, in making a decision; otherwise, in the writer's opinion, version is elective and the child must take its chance.

Symphyseotomy should be employed only when the mother's condition is satisfactory, the uterus uninjured, the child alive and its vitality in no wise endangered.

Against this operation it has been urged that the pubic bones do not always unite, and Mullerhein says that it should not be performed if the patient's vocation is laborious, as she will usually prefer the preservation of the power to work to the life of her child; but opposed to this view is the statement of Zweifel, who reports thirty-one cases from Leipzig, of whom twenty-nine children and all the mothers recovered, all walking without pain and following their regular vocation as before. He holds that if others have found their patients to walk with difficulty and pain, it was because they employed the operation in cases of too great contraction, producing rupture of the sacro-iliac-synchondrosis. Davis reports a case in a rachitic negress, who frequently danced for the nurses during convalescence, and subsequently resumed her vocation of stage dancing.

Quite a number of women have been delivered by a second symphyseotomy, and it has been found that where the pubic bones were slightly separated they were, nevertheless, firmly united with connective tissue. As an extra precaution, however, Norris recommends wiring of the bones, believing it materially lessens the time necessary for firm union and promotes the patient's comfort. "Silk sutures are worse than useless. When the strain of separation falls upon them they will tear through the tough tissues like a hot wire through butter;" besides, they are vastly more irritating and more easily infected.

Lusk says, "The weak side of symphyseotomy is the

* Read before New Jersey Surgical Society, Dec. 5, 1899.

imperfection of all methods thus far devised to secure coaptation of the parted surfaces after operation.

"I believe that the weak side may be made strong, and that we are entirely wrong in blaming silver wire with bad results due to infection and other causes. The safest of all material to bury is silver wire, and the safest material to bury it in is bone."

The writer believes that all cases of symphyseotomy in healthy women over twenty-five years of age should be wired. Furthermore, that all cases, victims of any cachexia or dyscrasia whatsoever, should be likewise treated regardless of age. It is a rational procedure and insures success.

When facts and statistics are thoroughly studied, the following conclusions must inevitably fix themselves upon the mind of each and every competent and conscientious obstetrician of the present day.

(1) That the absolute indications for Cæsarian section are tumors in the genital canal, osteomalacic deformities, cicatrices and contractions of the vagina, rupture of the uterus, women dying near the end of pregnancy, irreducible impaction of a living child in transverse presentations, and pelvis with a live child and a conjugate diameter of 4.5 to 5.5 centimeters.

No less authority than Kelly, in his *Operative Gynecology* makes the following statement: "The indication for Cæsarian section is *absolute* in all flattened pelvis with a live child and a true conjugate of 6.5 centimeters or less, or in a generally contracted pelvis of 7 to 7.5 centimeters or less;" furthermore, that "the indication for Cæsarian section is *relative* and competes with craniotomy when the child is alive in a pelvis measuring from 5 to 7.5 centimeters or less."

How to reconcile the above statements or differentiate the absolute from the relative, or vice versa, is not evident to me. Presumptuous as it may appear, the writer must take issue just here with the gentleman quoted. If absolute with a conjugate of 6.5 or 7 to 7.5 centimeters or less, the indication must of necessity be absolute still, with a conjugate of 5 to 7.5 centimeters, and if relative and competing with craniotomy with a conjugate of 5 to 7.5 centimeters, the indication, if figures do not lie, must remain relative and compete with craniotomy when the conjugate measures 6.5 to 7.5 centimeters or less. If the reverse is true, then the distinction is hair splitting, one so finely drawn as to be impracticable if not absolutely useless. A clearer and more comprehensive classification would present if Dr. Kelly's absolute indications were all placed under the head of relative indications, becoming absolute upon the indorsement or demand of one or both parents.

(2) That the indication for Cæsarian section is relative and competes with craniotomy in a pelvis with a live child and a conjugate of 5.5 to 6.5 centimeters, and in a generally contracted pelvis of 7 to 7.5 centimeters or less, but displaces craniotomy only when subject to the imminent or demand of one or both parents.

(3) That the indication for craniotomy is absolute when the child is dead and the conjugate measures 4.5 centimeters and upward.

(4) That symphyseotomy competes with and *always displaces* the relative indication of Cæsarian section in a pelvis with a conjugate of 7 centimeters or more, and sometimes if the head is small in a pelvis with a conjugate of 6.5 centimeters or more.

(5) That symphyseotomy never competes with premature labor in pelvis measuring 7 centimeters or more, and displaces it only when expressly and absolutely demanded by the mother, but under no circumstances does it

displace premature labor when the conjugate measures less than 7 centimeters.

(6) That symphyseotomy may be viewed as an aid to premature labor when the head is too large to engage.

(7) That symphyseotomy rarely, if ever, competes with version or forceps in pelvis when the conjugate measures 8.5 to 9.5 centimeters.

(8) That Cæsarian section, symphyseotomy, premature labor, craniotomy, version, and forceps, all have a definite place and relation in obstetrical operations, the success of which will, of course, always depend upon the acumen, skill and care of the accoucheur.

THE PREVENTION AND TREATMENT OF DIARRHEA IN INFANTS.

BY M. E. FITCH, M.D., PHILADELPHIA, PA.

THE months of July and August are annually notable for their large number of cases of infantile diarrhea and the high mortality resulting therefrom. June and September present by no means a small number of cases, but they do not equal the two first mentioned. Chapin (*Med. News*, July 15, 1899) gives a table of the deaths from this cause of children under five years of age in New York city for the past five years. July shows the largest percentage in each instance, though in 1895 the mean temperature of August was three degrees higher than that of July. He explains this by the fact that after several weeks of warm weather the weaker infants die off and consequently the later months show a smaller death-rate, although the temperature continues high and even exceeds that of the earlier months.

The subject is one of great importance, for in the large cities the complaint reaches almost the proportions of a scourge. The patients are of the age at which treatment is most difficult, and this fact renders prevention, always important, of much greater value than even the proverbial sixteen to one ratio. Still greater emphasis is to be placed upon this point because the condition is so largely a preventable one. Errors in diet, counterbalanced during the cooler months by a natural resistance which is unable to do this when handicapped by the lowered vitality engendered by hot weather, are responsible for the large majority of cases. Too much food, or that of an improper quality, will easily provoke a diarrhea under the conditions mentioned. From this fact it is readily seen how large a part prevention may take in controlling the affection.

In speaking of prevention it must be admitted that in these cases, as in many others, the physician plays the rôle of the lock on the door after the thief has made his visit. But the writer believes that it is the duty of the physician to give warning and instruction to those having the charge of infants. Wherever this is possible, by reason of his being the family physician or even an occasional visitor, much can be accomplished toward lowering the mortality of the summer months.

As infants fed upon cows' milk form a large proportion of the cases, the results of experiments seeking to render it more easily digested by dilution of otherwise are especially interesting. Chapin finds that properly diluting the milk with decoctions of the cereals as advised by Jacobi yields the best results in his practice. With Prof. Lusk he made some experiments upon a dog having a gastric fistula. Equal parts of barley-water and milk were given, and the stomach contents withdrawn at the end of a half hour. The same process was tried with equal parts of plain water and milk. In each instance the clots were finer and apparently more digested when the barley-

water had been used. Chapin states that in general a bottle-fed baby should have less bulk of food and a higher dilution of milk in very hot weather than it has been accustomed to before. When diarrhea begins all forms of milk must be temporarily withheld. A good substitute is the white of an egg thoroughly stirred in half a glass of cool water. Ten drops of aromatic spirits of ammonia may be added to overcome the tastelessness, and it also helps check stomach irritation.

Chesebro (*Phila. Med. Jour.*, June 17, 1899), in discussing the modification of cow's milk for infant feeding mentions Holt's primary formula, which is then diluted with milk-sugar solution for infants of different ages. The primary formula most convenient is a mixture of equal parts of ordinary cream and milk. He recommends as a working rule for the dilution of the primary formula for young infants to dilute it five times for the first two weeks, four times for the next three or four weeks, etc., diluting it twice for an infant of twelve to eighteen weeks of age. These would seem to be weak solutions, but he insists upon the necessity of using them at first. Lime-water should be added to overcome the acidity of the milk, and two or three grains of table salt should be added for each feeding.

Ashby (*Edinburgh Med. Jour.*) finds milk-whey of great value. Hawksley's sterilizing apparatus is used, and after the milk is heated to 104° F. two teaspoonfuls of essence of rennet is added. After curdling has taken place, the mixture is stirred and shaken until the curd is broken, when it is strained through fine muslin and the liquid heated to 160° F. for twenty minutes to destroy the rennin. A second straining may be necessary. Whey prepared in this way, with or without the addition of two or three drachms of milk-sugar to the pint, is a useful food for newborn infants, or those who have chronic vomiting or liquid, green, curdy stools.

Blackader, of Montreal, and Chapin, both prefer pasteurization to sterilization, though the latter admits that sterilization may be temporarily necessary during intense and prolonged warm weather. Blackader believes that it impairs the digestibility of milk. While also admitting that the process may be necessary with milk undergoing long transportation or that containing large numbers of bacteria, he rightly states that such milk is not fit for infant feeding, however prepared. All milk used during the warmer months of the year should be either pasteurized or sterilized, however, except when used direct from the cow. The question as to which of the methods is the better one is not yet settled, the general opinion of pediatricists being that low temperatures are in the main effective and that their use avoids some decided disadvantages of sterilization. Holt and Booker, however, claim that mere sterilization of milk does not influence its digestibility to any extent, and that milk so treated has no tendency to induce scurvy. Koplik thinks pasteurization is insufficient to completely destroy the bacteria, and gives instances where diarrheas existing under a diet of pasteurized milk were quickly cured when sterilized milk was substituted. Blackader concludes that the question is not yet settled and must be decided by clinical experience, his own leading to the opinion before given. As with adults, individuality must be taken into account, and the preparation that gives good results in one or many cases will fail to agree with others. There is no question as to preventing many of the cases of summer diarrhea if the proper amount of milk is given and its preparation is attended to in some of the various ways in use, even if there is a lack of unanimity of opinion concerning the value of the different methods.

With the question of treatment comes a much more serious matter, especially in the acute cases popularly known as cholera infantum. Treatment here must be decisive and energetic, for the course is often one of but a few hours, or at most a day or two, unless the more chronic but rarer form supervenes.

Blackader (*Progressive Med.*, Vol. I) states that all recent writers emphasize the importance of promptly clearing out the intestinal tract. This is to be done by a quick-acting purgative, followed if necessary by lavage of the stomach and large intestine. At the same time milk food should be stopped, and only sterile water or thin barley or rice water given for a few days. Castor oil is a valuable purge, but more frequently calomel has to be given because of an irritable stomach. A few hours after the purgative is given an effort should be made to wash out the colon. Normal saline solution should be used and a pressure of only one or two feet in height maintained. The temperature of the water may be lowered a few degrees after the current has been started, but care should be taken if this is tried, as it may easily produce too great depression. Cold also stimulates peristalsis and adds to the pain. The blood pressure should be raised and the pulse show more strength after the irrigation, if rightly done. Blackader advises caution in the use of intestinal antiseptics by the mouth, he having witnessed great depression from their use in the large doses recommended by some practitioners. He believes that after a laxative and thorough lavage of the intestine, no means under control are so effectual in checking the development of injurious organisms as limiting the dietary first to sterile water and afterward to a thin decoction of some cereal. Still later small quantities of a thin broth may be alternated with the cereal food. Continental writers are quoted as strongly recommending tannigen in the later stages. It is tasteless, and one writer thinks it does not impair the gastric functions or produce bad after-effects. The dose is from two to five grains four times daily. Blackader has much confidence in hydrotherapy when the temperature runs an elevated course. He prefers tepid baths, about 95° F., quickly lowered to 90° or 85° after the infant is placed in it. Still lower points may be used until the temperature of the infant is distinctly influenced. The bath should last from three to ten minutes, great care being taken to treat depression if it should arise. Irrigation of the intestine with cool water is admitted to be more powerful than the bath or pack, and may be of much value when used with discretion. Its action is less under the control of the physician, however, and serious depression may result if it is too cold or too long continued. The subcutaneous injection of saline solution often gives good results in cases of exhaustion or where hydrocephaloid symptoms develop.

Bleeh, of Chicago, is a strong advocate of endoxin as an intestinal antiseptic in cases of diarrhea. It is split up by the gastric juice, the nosophen passing or unaltered. Its non-toxicity makes it especially adapted for use in children. Of sixty-three cases of infantile diarrhea in which he used it he obtained satisfactory results in fifty-eight.

Chapin has found the subnitrate of bismuth in large doses to be the most useful drug in his experience. A baby of six to twelve months can take from ten to twenty grains every two or three hours. He believes that opium is not used often enough at the present time in proper cases. When rapid peristalsis and profuse glandular secretion persist, a few moderate doses of opium are most valuable and may aid in saving life.

Tyson recommends, after a purge, bismuth subnitrate

or prepared chalk combined with a small amount of salol. If there is pain opium may be added to every dose, or every other one, as indicated, but attempts to relieve the pain should first be made by mustard plasters or a spice poultice. Astringents are seldom necessary, but compound tincture of kino is efficient. The antiseptic treatment has never commended itself to him, and he thinks that perhaps more harm than good has been done by the use of resorcin naphthalin, and the like, which are often irritating. In cholera infantum opium is indispensable, and preparations of silver are sometimes of value. Hyperpyrexia must be combated by hydrotherapy, stimulants used, and irrigation of the large bowel may be added. The 1 per cent. salt solution may be given by hypodermoclysis in cases of extreme collapse.

Osler speaks in the warmest manner of the good results obtained from irrigation of the stomach by lukewarm water. He states that the method has probably been carried to excess, but that does not detract from its great value in suitable cases. It is practiced without difficulty by means of a large-sized, soft-rubber catheter, and should be continued until the water comes away quite clear. Irrigation of the large bowel is also useful. He thinks that we are still without a reliable intestinal antiseptic. Bismuth is often quite effective, but it is generally given in too small doses. An infant a year old will take as much as two drachms in a day.

In cases of cholera infantum where the stools are almost entirely colorless and contain a small amount of a pasty, whitish substance having a mousy odor, H. A. Hare's favorite treatment is the use of podophyllin. One-twentieth of a grain, for a child of six months, should be given in two doses, half an hour apart, in twenty drops of brandy with a little water. In two hours the dose may be repeated, and again in two hours more if necessary. As soon as the movements have changed from the pasty-white character to those having a bilious color, then, and not till then, are astringents to be employed. This treatment brings about glandular activity, which is absolutely necessary. While the podophyllin is acting a spice plaster should be applied to the belly or the child immersed in a hot bath for short intervals in order to preserve its bodily temperature. Irrigation of the bowels is also recommended as a remedial measure of great success. Hare states that a very important, never-to-be-forgotten measure in cholera infantum is the use of counter-irritation over the belly by means of a mustard plaster (one part of mustard to four of wheat flour) or by a spice plaster. The plaster should be renewed as often as it cools, and kept on continuously if the skin will stand it.

—An Australian champion cyclist fell forward in his saddle twenty-five yards before the end of a carnival race, and, with his feet still moving with the pedals, reached the winning post, when it was discovered he was dead. The story, if authentic, as it appears to be, records another striking instance of the indomitable pluck of athletic men. It shows, moreover, the unerring balance and precision needed in a race, and the instinct that caused the rider, even in the act of dying, to throw himself into and maintain a proper poise. This is the only instance, probably, ever recorded of a race being won by a dead man, and it is said the doctors stated he died during the last lap. Medical cyclists will naturally look forward with interest to learning further details of this most tragic affair.

RECENT NEWS ON THE ETIOLOGY AND TREATMENT OF DIABETES MELLITUS.

BY A. G. ELLIS, M.D., PHILADELPHIA, PA.

DIABETES mellitus, although rather a rare disease in the United States, is undoubtedly on the increase. This is not only the opinion of general practitioners, but is shown by the records of many of the large hospitals in our different cities. Unfortunately knowledge regarding the causation of the disease cannot be said to be increasing very steadily. At least if steadily, it is slowly. It is true that much knowledge concerning the affection in question has been developed, but of the true pathology little that is definite is known. The glycogenic function of the liver, pancreas, and other organs of the body is imperfectly understood. That diabetes is caused by some glycolytic disturbance seems without question. What may or does cause this disturbance is not clear. Another unsettled question is to what extent glycosuria may be present and yet not be considered a distinctly pathological condition. The writer knows a young man who has been refused life insurance three times during the last few years because of a slight glycosuria. Yet to all appearances, and in fact, he is a perfectly sound man. The question as to the cause of this and whether the amount will increase in a given case becomes then a practical one.

If Bremer's blood test is what its discoverer claims it to be it should be of value in these cases. In its present state of perfection, however, it occupies the same position in the scale of value in the estimation of many physicians that is held by the Widal test. The latter is undoubtedly correct in the very great majority of cases. In the less doubtful cases it is accepted as evidence, as indeed it is in the most doubtful ones; but in the latter it can hardly be taken as conclusive. It is attaining nearer to perfection, however, and Bremer's test, as it is better understood and more intelligently used, will be given more weight in diagnosis. The test is worthy of a trial, the latest method being as follows: Smears of suspected and normal blood are made on ordinary microscopic slides. These are heated up to 135° C., and after cooling are stained in a 1-per-cent. aqueous solution of Congo-red for one and a half to two minutes. The slides of the different specimens of blood are placed back to back in order that they may be exposed to exactly the same conditions. After the excess of stain is washed off the normal blood will be found to have a distinct Congo-red stain, while if the suspected blood be from a diabetic patient it will be unstained. Bremer obtains this result in the prediabetic stage and also in the intervals when the patient's urine is temporarily free from sugar. He believes the reaction to be due to a change in the hemoglobin of the red cells, and not to an excess of sugar in the blood. Osler has repeatedly obtained the reaction in cases in his wards, but failed to fully confirm the statement regarding its presence during the temporary absence of sugar from the urine. A test has also been devised by R. T. Williamson, it depending upon the power of diabetic blood to decolorize alkaline solutions of methylene blue to a yellowish-green or yellow color. This has proved successful in a great number of cases.

The latest investigations regarding the etiology of diabetes mellitus have been made with the view of determining the relation of the pancreas to this disease. The removal of this organ from dogs is almost invariably followed by glycosuria, which is absent in cases where a small portion of it is allowed to remain. This seems to

prove that the pancreas is closely associated with the glycolytic processes of the body. Lesions of the pancreas are met with in about fifty per cent. of the cases of diabetes mellitus, but even where lesions are not to be found the pancreas may be at fault, if, as some suppose, that organ have a secretion for the blood as well as one for the intestine. A disturbance of this secretion, then, may bring on glycosuria and yet no lesion in the organ itself be discoverable. Atrophy of the pancreas has been found in many of the cases coming to autopsy, but Naunyn found only one case among his forty autopsies of diabetes that he could attribute to the pancreas from its condition post mortem. Tyson, after reviewing the many asserted causes of diabetes, especially those concerning the pancreas, concludes that "it is impossible to explain all cases of diabetes from any one standpoint to the exclusion of another. There is no doubt that the pancreas has something to do with it, but it has not all to do with it. The truth is that a certain number of cases are dependent on derangements of the nervous system, either directly or reflexly, a certain number are produced by an interference with the proper function of the pancreatic secretion, while others still are inexplicable."

Bard and Pic (*Rev. de Méd.*) in discussing the question of diabetes occurring in primary cancer of the pancreas, do not believe this is the case so frequently as some writers maintain. In two autopsies upon cases of simple glycosuria they believed the glycosuria was due to sclerosis of the pancreas instead of the cancer, and they lay great stress upon the presence of sclerosis. When there is true diabetes they believe that it has often antedated the cancer. In only seventeen of one hundred and fifty cases of primary cancer of the pancreas was there any record of glycosuria. Fitz (*Yale Med. Jour.*, March, 1898) states that in twenty-nine cases in the Massachusetts General Hospital in which changes in the pancreas were present, there were only two cases of glycosuria noted.

H. Stern (*Med. Rec.*) believes that the affection commonly called diabetes is not a disease in itself, but only one stage in a general diabetic deterioration. The three stages in this are, first, the preglycosuric; second, the commonly recognized diabetes mellitus; third, a post-glycosuric, or stage of auto-intoxication. The chief evidences of the prodromic stage of the disease he believes to be gastrointestinal disturbance with intolerance of carbohydrates, sometimes also of hydrocarbons, and often associated with hyperchlorhydria, sickening pain in the epigastrium, increased after eating, and a dull pain in the right hypochondrium are frequent. Excessive hunger and thirst are absent. Sexual inclination is diminished and there is nervous irritability. There are frequent disorders of the skin. In treatment of this stage he advises change of climate, flannel underclothing, exercise, and dietetic measures similar to those used in actual diabetes. The bromid of gold and sodium has given good results in these cases.

Moraczewski (*Centralbl. f. innere med.*, No. 36) gives the results of an investigation of the excretion of calcium chlorid in the urine of diabetics. He finds that of all the chlorids ingested 37 per cent. was lost, of the calcium phosphates double the amount taken in the nourishment was excreted, a considerable portion of the chlorids and nitrogen ingested was retained in the body. When antidiabetic diet was given, the excretion of all the elements of the urine were practically normal except the calcium, so that the loss of calcium salts seems to be a specific symptom. From this comes the question as to whether animal diet may not cause diabetic coma because of its poverty of calcium. The addition of calcium to the diet

causes a decrease in the glycosuria and seems to have a favorable effect.

Estay and Marie both report cases of diabetes mellitus treated by the administration of methylene blue. In Estay's first case seven and one-half grains were given daily for eight days. The urine was decreased in amount and thirst was diminished. The sugar was lessened from sixty grn. per liter to twenty grn. per liter. In the second case one and one-half grains of methylene blue was given four times per day, and in a month the sugar was reduced from thirty grn. to five grn. per liter.

A. Telnichin (Vratch) gives an interesting personal experience with the use of spermin. Severe diabetes began three weeks after an injury in a railroad accident. There was no response to treatment by drugs, and he prepared an extract from the testicles of bulls and dogs. He is comfortable and free from symptoms while taking this. He takes daily injections for two months and then omits it for about the same time, when the symptoms always begin again and he recommences the treatment. This has been continued for several years.

Osler's dietetic treatment of diabetic patients admitted to the Johns Hopkins Hospital is as follows: The patients are kept for three or four days on the ordinary ward diet, which contains moderate amounts of carbohydrates, in order that the amount of sugar excreted may be ascertained. They are then placed on a standard diet made up of:

Breakfast, 7.30—One drachm of tea steeped in six ounces of water; four ounces of boiled ham; one egg.

Lunch, 12.30—Six ounces cold roast beef; two ounces fresh cucumber or celery, with one drachm vinegar; two and one-half drachms olive oil, with salt and pepper to taste; five drachms whisky; thirteen ounces water; four ounces coffee, without milk or sugar.

Dinner, 6 P. M.—Six ounces clear bouillon; seven and one-half ounces roast beef; two and one-half drachms butter; two ounces green salad, with two and one-half drachms vinegar and five drachms olive oil; three sardines à l'huile; five drachms whisky, with thirteen ounces water.

Supper, 9 P. M.—Two eggs (raw or cooked); thirteen ounces water.

The effect of this diet on the sugar excretion is remarkable, in many cases there being an entire disappearance of sugar from the urine in three or four days. In cases in which the urine becomes free from sugar, gradually increasing quantities of starch are added daily to the diet, up to as high as three ounces. This is done on the principle that the non-carbohydrate diet so improves the metabolic functions that the system can retain considerable amount of carbohydrates without sugar appearing in the urine. Van Noorden recommends the returning to the standard diet at intervals in order to gain this impetus to metabolism.

J. C. Wilson suggests that in dealing with patients in private practice who have been ordered a restricted diet they should be allowed at intervals to eat a full, hearty meal. This privilege might be given on holidays or occasions of family gatherings. Patients do better and are not so liable to fool the physicians and even themselves by eating more than they ought regularly. The hearty meal has its own effect and the patient will not feel so well for some days, perhaps, but it is gratifying at the time and the patient thus learns the effect of over-indulgence and the value of controlling his appetite.

While the medicinal treatment of diabetes mellitus is at the best an unsatisfactory one, it must be resorted to in certain cases where restricted diet does not produce the desired result. Diet alone should be first tried in

every case, and if this will control the disease, drugs should be avoided. Increasing doses are necessary, and these in the case of opium become enormous. Patients are apt to waste rapidly when the drug has to be withdrawn, although codeine seems to have a minimum effect in this direction, and often may be reduced without ill effects resulting.

Next to opium and its alkaloids arsenic is the favorite remedy with some practitioners. In some cases this drug produces a troublesome diarrhea and its use must be discontinued.

Of the treatment of diabetic coma, Osler says that "the subcutaneous and intravenous injection of physiological salt solution, though rarely curative, has probably given the best results. This treatment was used in my wards in ten of the twelve cases in which coma occurred. In two cases the patients were restored to complete consciousness, so that they would have been quite capable of making a will. Both cases eventually terminated fatally, however. In three instances there was improvement in the pulse, and the respirations were much less labored, though consciousness never returned. In the remaining five cases there was no appreciable improvement. Reynolds published two cases of recovery after the administration of a dose of castor oil, followed by thirty to sixty grains of citrate of potassium every hour in copious draughts of water. The bowels of a diabetic patient should be kept acting freely, as constipation is believed to predispose to the development of coma."

The treatment of diabetes mellitus by active exercise is being investigated, or rather revived, by certain practitioners, with very promising results in some cases. Bicycling seems to be one of the most efficient means of reducing the glycosure by means of exercise, and, in these days of numberless wheels, this treatment should be hailed with delight by diabetics. A. Albu (*Berliner klin. Woch.*) found in one case that careful bicycling reduced the sugar in the urine when the patient was taking a certain amount of carbohydrates, but when he was on proteid diet this effect was not obtained. Diacetic acid and acetone never appeared in the urine after bicycling, and the nitrogen-equilibrium was not affected. Albu maintains that muscular exercise is superior to all forms of medicinal treatment for controlling the glycosuria. For a patient to do the best on active exercise he must have good nutrition, a good heart, and firm muscles. The effect must be carefully watched at first. Walking is of no use; more active forms, such as bicycling, mountain-climbing, etc., being needed. The best times for the exercise are after breakfast and the noon meal.

FRENCH TRANSLATIONS.

Academy of Medicine—Tumors of the Bladder.—M. I. Boeckel, Strasbourg—Surgical intervention procures durable cure. The cure is definite in cases of benign tumors, in some cancers, more appropriately named papillomata, for they are essentially of a benign nature. The first observation is interesting by reason of the volume of the tumor which fills the whole vesical cavity, and the facility with which it can be extirpated. The second offers this peculiarity, that 18 months after a cure, a vesical calculus formed which required a second operation afterwards followed by cure. The suprapubic operation has great advantage, it permits reaching the tumor with facility, and extirpating it less convenient of execution, and of much more doubtful efficacy.

Sclerosis of the Medulla.—M. Thomas reported an observation of peculiar medullary sclerosis. 1st. There were two plates of sclerosis, one in the cervical region, and a smaller one lower down. They interrupted the pyramidal cord. The symptomatology was reduced to a hemiplegia, complete in the lower limb, incomplete in the upper. 2d. Besides the sclerotic lesions, typical from a histological point of view, there was a more diffused sclerosis of the medulla, the histological character of which made it attributable to syphilis. There was then the co-existence of sclerosis in plates, and medullary syphilis.

Tetanus in the Form of Pseudo-tetanus.—M. Guinon.—Tetanus is a very rare disease in the hospitals of Paris. I have seen but three cases in 15 years, very frequent, on the contrary, in Germany. Sometimes it affects abnormal forms that render the diagnosis difficult. Escherich has described, under the name of pseudo-tetanus, a form accompanied by trismus. Such is the case I present to the society. A child of 4 years, on leaving the bath, was attacked by pain, which, beginning at the knees, mounted to the abdomen, trismus supervened with contraction of the lips, with redness of the nucha and opisthotonos, there was also a permanent eruption, and the case presented the appearance of tetanus at its beginning. M. Roux was requested to examine the child with a view to the treatment by the intracerebral injection with anti-tetanic serum. He gave the opinion that it was not tetanus but cerebrospinal meningitis. The absence of fever made this diagnosis inadmissible. The condition of the patient remained stationary, until a purulent discharge occurred from the ear, when the contractions immediately disappeared, then cure was complete.

The Microbe of Ozena, Its Morphology, Culture and Biological Characters.—M. A. Hebert-Loewenberg described in 1884 an unique, special and characteristic microbe in ozonal nasal mucus, and his researches have been confirmed in great measure by more recent observers. Having been able to procure nine specimens of this microbe, we have, with the concurrence of Mlle. Robinson, interne of the Hospital of Rouen, renewed its investigation. The mucous filaments of the ozonal nose contain the microbe in a pure condition, and it is very often associated with a small coccus—Gram. In order to isolate it, we inoculated white mice with the first impure cultures, and after death, with a trace of blood, aseptically received from the heart, and disseminated through gelose, pure cultures have been obtained. The characters of the microbe of ozena differ from those indicated by Loewenberg, and may be described as follows. In gelatine it does not assume the characteristic nail head form of the pneumobacillus. Its culture in gelose has rectilinear borders, and flows to the bottom of the tube, it does not coagulate milk. The cultures emit an agreeable odor, all the properties distinguish them from the bacillus of Friedlander. As a result of our experiments, as to morphology, the cultures and biology of the ozonal microbe, present characters absolutely similar to those of the pneumobacillus as they have been indicated by classic authors, by Grimbert and by ourselves.

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Why comes temptation, but for man to meet
And master and make crouch beneath his foot,
And so be pedestaled in triumph?—Browning.

THE STUDY OF PHYSICS AN AVENUE TO SCIENTIFIC THERAPEUTICS.

IMPORTANT discoveries in physics are often attended with such expense as to prevent their use only to a limited extent. The use of the X-rays have been so important in scientific investigation as to lead to the most careful study as to the cheapest and best way of producing them without resorting to the costly glass tubes, the inductive coils for producing electric discharges in these tubes, and the battery and dynamo machines. It is found by continued experiment that the rays are given off by various substances such as the salts of uranium and certain compounds from pitch blend. Some of these substances in the form of powders strewed on card-board can penetrate opaque matter in ordinary light, like wood, thin sheets of metal, and can throw shadows of the bones on photographic plates. Indeed, they can produce all the phenomena of the X-rays, including the lighting of fluorescent screens, the dissipation of electric charges and the rendering of air or gases better conductors of electricity. These radio-active substances, the limits of which have not by any means been reached, seem to resemble the magnet in exciting an effect without apparent loss of strength. A certain sulphide has been obtained from pitch blend which is more than four hundred times as active as the uranium earth, which was just studied. This sulphide has been called polonium, and it is supposed to be a new metal. Its great sensitiveness has diminished immensely the cost of producing the X-rays, and increased their use in most important work.

A continued study of the X-ray with the improved facilities of producing it has so far broadened its boundaries as to include the subject of the ultimate constitution of matter. Prof. Thompson has reached the conclusion from the action of the X-ray upon gases, of the existence of masses smaller than the atom, and thinks that ordinary electrification consists in the removal of a

smaller atom or corpuscle negatively charged, leaving the remainder positively charged. This theory, which makes the atom a variable quantity, Prof. Thompson thinks is supported by spectroscopic observation. The production of liquid air on a large scale, at a very low rate of expense, is being rapidly utilized, and is producing remarkable results, not only in the field of scientific investigation, but in many of the lines of work which contribute so much to health and comfort. New discoveries have been made which may have an important bearing upon future scientific work. Prof. Ramsey, by the aid of fractional distillation of liquid air, has added neon and metargon to the list of new gases.

The electric theory of light, predicted by Lorenz, from a mathematical discussion secures very strong support from the investigation of Ziemann, which led to his discovery of a new method of analyzing the vibrations of light from the action of magnetism upon it. Light is absorbed in a peculiar manner when the source is placed between the poles of a powerful magnet, and remarkable differences are observed in the character of certain lines in the spectrum of the light. The theory that light and heat are electrical phenomena is steadily growing in importance, and is more and more confirmed by recent investigation. Electricity may be regarded as undulations in the ethereal medium, and the phenomena of light and heat as simply modifications of such undulations. Not only has modern research demonstrated the practically equal rates of transmission of electricity and light, but along with this has been demonstrated the co-existence of many of those fundamental laws of radiant energy, manifested alike by light and heat. In addition to those changes wrought in light by the magnetic field already mentioned, we find that electricity, light and heat severally manifest a parallelism in their leading phenomena, which justifies a tentative assumption as to their common natures.

From these illustrations it will be seen that in the study of physics, with each progressive step of investigation, one great fact after another opens before us, and we become more and more master of those subtle forces which vibrate through all the channels of life. Agents obtained from the vegetable and mineral world, of course, have their uses in the relief of pain and in aiding the vital forces to accomplish their specific work, but while the labors of the chemists and the pharmacists are fruitful in rich results, it must be admitted that the great triumphs of the medical profession are in the line of the prevention of disease, so changing the environment and the habits of living, so utilizing the forces of nature in their harmonious action as to prevent the formation of those germs which paralyze the vital forces with their rapidly accumulating poison. Until within the past few years the study of the physician has been directed more to the relief of suffering by the use of drugs and mechanical means than to the prevention of diseases, but the study of physics is opening a broader field, leading to a clearer understanding of the problem of life, the origin of disease and

its prevention. The medical profession of the future, by its grasp upon all sciences which relate to the unfolding and the mastery of the laws of nature, may find, while its works in the sick room will be less called for, it certainly will be more efficient from the broader range of a more thoroughly scientific therapeutics, giving us a clearer insight into the cause of disease, its prevention and extermination. The medical profession is rapidly realizing the great fact that the development of the past few years is enlarging its vision, liberalizing its practice and increasing by a wider range of studies the intelligence and efficiency of its work.

PRESIDENT ELIOT, of Harvard, was formerly opposed to inter-collegiate sports as indicated by his frequent expressions of disapproval. It seems that these games have so far changed in method that now he is willing to attend as he did the Harvard-Yale football game recently.

He says in his annual report that "The spirit in which inter-collegiate sports are conducted has improved of late, but there is ample room for further improvement. The pecuniary aspects of the sports are not agreeable. More and more thousands of hideous wooden seats and high banks are built every year on Soldiers' Field, and more and more gate money is received. Even the students must pay large entrance fees to see the interesting games. On the other hand, the players think that all their wants as to uniforms and personal services should be liberally supplied from the abundant gate money. It is an inadequate offset to these drawbacks that a small portion of the gate money has been applied for several years to permanent improvements on Soldiers' Field, under the skillful direction of Prof. Hollis. But the grounds cannot be made beautiful so long as those squalid banks of seats are permitted to deface them.

"Some players and colleges still seem to think that they have something to gain from victory in sports which will compensate for the discredit of violating rules or taking unfair advantages. It is an objection to football that immediate advantage may accrue from violations of rules which the spectators cannot see, or even the umpire detect."

THE President of Washington and Jefferson College, Washington, Pa., has announced that no more hazing will be allowed, and that he would rather have 100 students without hazing than 500 with it. Expulsion will be the penalty for further hazing.

A BILL has been introduced in the Assembly making penalties of from \$50 to \$500 and imprisonment of from three months to one year, or both, for conviction of hazing at schools or colleges in this State. The bill should be promptly passed and thoroughly executed and other States should follow the example.

NAPOLEON ON DRUNKENNESS.

NAPOLEON BONAPARTE will appear in the March *Century* in a new rôle—that of a temperance advocate. In the second instalment of Dr. O'Meara's hitherto unpublished "Talks with Napoleon" at St. Helena, it is recorded that, having a pain in his side, the ex-Emperor asked his physician to show him where his liver was situated; and the latter, in some remarks on the causes of inflammation of that organ, mentioned intoxication as one of them. Thereupon Napoleon remarked:

"Then I ought not to have it, as I never was drunk but once in my life, and that was twenty-four years ago, at Nice. * * * I drank three bottles of Burgundy, and was completely drunk. O how sick I was the next day! I wonder how a man who once gets drunk can ever think of doing it again. Such headache, vomiting, and general sickness; I was nearly dead for two days."

THE PLAGUE.

LORD CURZON, the Viceroy of India, is winning golden opinions by his prompt and energetic action in every emergency in which the good of the people of India is concerned. On learning that the plague in Bombay and Poona was on the increase, as indicated by the greatly increased number of deaths, he immediately started for a thorough inspection of the sanitary arrangements of the infected districts, taking the precaution of having himself and entire party inoculated with the prophylactic serum. "A measure," he said, "which changes the death rate of from 70 to 80 per cent. into one of from 15 to 20, even in those who are attacked after submitting to it, to say nothing of the large proportion who are completely protected by it, is one which no sensible man can afford to neglect."

Notwithstanding as a means of cure after the disease has actually made its appearance, serum inoculation has not proved as successful as it was hoped, the preventive effects have been most encouraging, notwithstanding they have been of short duration, the inoculation having to be frequently repeated. The disease, which was spreading with great rapidity in Honolulu, has been in a great measure stamped out, and is now under complete control. Our health officers have no fear of its visiting our shores.

DR. GEORGE TAYLOR STEWART, the very popular and efficient chief of staff and superintendent of the Metropolitan Hospital, at the close of the monthly meeting of the Medical Board of the hospital, composed of twenty-four of the leading physicians and surgeons of the city, was taken very much by surprise by the presentation to him of a dish of silver, which bore the following inscription: "Presented to George Taylor Stewart, M.D., Chief of Staff of the Metropolitan Hospital, by the Medical Board as a testimonial of long and faithful service."

INVESTIGATION OF NATIVE DRUG PLANTS.

HON JAMES WILSON, Secretary of Agriculture, in his annual report states that the committee of the Pan-American Congress for the United States has recently submitted to him a proposition to co-operate with the Department of Agriculture in a technical and statistical investigation and classification of our native drug plants. Mr. Wilson says, in accepting this proposal, he shall secure in a research, of which we have long felt the need, the cordial assistance and support of an influential association of learned physicians; and shall encourage each of the other American nations, all of which are represented in the Pan-American Medical Congress, to proceed with a similar investigation of their own medical flora; we shall furnish a basis for the remunerative employment of much land and many people, and we shall stimulate the growing trade in drugs between the countries of North and South America. The Secretary concludes his report by asking for an appropriation of \$10,000 to enable the department to co-operate in this investigation. Mexico, it may be stated, has shown much more energy in this work than the United States, the investigation having been practically completed in that country by the Instituto Medico Nacional. The investigation carried on through the Department of Agriculture would greatly enrich our materia medica.

LAKE OF SULPHURIC ACID.

IT may be difficult to believe in the existence of a lake of sulphuric acid, but, according to *Tit-Bits*, there is such a lake in the center of Sulphur Island, off New Zealand. It is fifty acres in extent, about twelve feet in depth and fifteen feet above the level of the sea. The most remarkable characteristic of this lake, however, is that the water contains vast quantities of hydrochloric and sulphuric acids, hissing and bubbling at a temperature of 110 degrees Fahrenheit. The dark green colored water looks particularly uninviting. Dense clouds of sulphuric fumes constantly roll off this boiling caldron, and care has to be exercised in approaching this lake to avoid the risk of suffocation. On the opposite side of the lake may be seen the tremendous blowholes, which, when in full blast, present an awe-inspiring sight. The roar of the steam as it rushes forth into the air is deafening, and often huge boulders and stone are hurled out to a height of several hundred feet by the various internal forces of nature.

THAT consumption does not run in families, but does run in houses, is the theory of Sir Richard Thorne, who addressed the London Medical Society recently. "Refuse to live on a damp soil," was his advice; until people ceased to live under unfavorable conditions, they need hope for little diminution in the consumption death rate. The improvement of sanitary appliances had in the last forty-five years reduced that rate nearly 50 per cent.

UNHAPPY MARRIAGES.

THE statement recently made by Prof. Sumner to a class of 200 senior students in Yale College that 90 per cent. of the marriages of the present time turn out unhappy is an illustration of what nonsense brainy men will sometimes utter. If the question was asked how many couples would probably separate during the first two years of wedded life if neither law nor public opinion discountenanced it, we should say possibly 90 per cent. After the first few weeks of honeymoon come the clash of ideas, the sharp corners of individual character, the smoothing down of which often arouses feelings anything but saintly. This getting thoroughly acquainted with each other often takes one or two years, and during that time there may be an occasional tiff more or less bitter when to each a separation would seem most desirable; but sooner or later there is a better understanding, a closer union, and the erection of a family altar sacred to both, the blending of family ties into a unit in mutual respect and affection. The only separation looked forward to, and that with a shiver of fear, is death. Each has learned that absolute perfection does not exist, and in the closer relations of married life have found in its harmony a rest and a haven from the trouble and the bitterness which so often form a part of our intercourse with the outside world. In the more than fifty years of mingling with the family circle, as physician and friend, with all grades of domestic life, we can safely say that 90 per cent. would testify that there had been more of happiness than unhappiness in the domestic circle, and that married life, in their case, notwithstanding occasional drawbacks, had been to them a blessing for which they were thankful. In doing away with the evils of married life we need less law and more of that domestic training in the home circle based upon love and justice.

THE daily papers report a death by being run down in the street by a New York Hospital ambulance. If the report is true as stated, it is a case for the courts, and the responsibility should not be restricted to the poor driver, who is following instructions of his superiors. This ambulance nuisance is a subject for the grand jury. Ambulances have no more right to endanger life than other vehicles. There is no haste whatever in the majority of these calls. Make an example, and perhaps it will do good. If not, instruct the police to interfere, but stop it in some way.

THE new Mount Sinai Hospital, now in process of erection, will probably be the most complete in all its details of any in the world. It will occupy the entire block between Fifth and Madison avenues and 100th and 101st streets, and when fully equipped will cost \$1,335,000. There will be ten sets of fire-proof buildings, connected by corridors, four stories high, of brick and white marble, accommodating 450 patients.

NEW YORK STATE BOARD OF HEALTH.

THE annual bulletin of the State Board of Health for 1899 shows that the number of deaths during that period was 121,820. That is 850 more deaths than occurred during 1898, and 4,740 more than during 1897, which was a year of unusually low mortality. It exceeds the average mortality of the ten preceding years by 2,550. Besides the reported deaths, there were 1,200 delayed returns, not reported in the bulletin. The death rate per thousand population is 17.3, which is the average death rate for the past ten years. The rate of 1898 was 18 per thousand population. The decrease in the death rate is chiefly in the maritime district, where the mortality was less by 800 than in 1898.

The infant mortality was less than the average by almost 5,000, and is 1,800 less than that of last year. There were 1,100 fewer infant deaths in the maritime district than in 1898, and there is a decrease in all the districts, save in the Lake Ontario and Western.

Compared with the average of ten years the deaths from diphtheria are but little more than half as many, though the number is 175 greater than that of 1898. Diarrhoeal diseases caused 2,000 fewer deaths than the average; whooping cough, measles, scarlet fever and malarial diseases also caused fewer deaths than the average.

THE GOSPEL OF FRESH AIR.

THE breathing of fresh air—by night and by day, in all seasons and weathers—is now acknowledged by every scientific physician to be the only effectual means of checking the great white plague, as consumption has been aptly called. The patient must sleep with windows wide open, and spend his days out of doors, guarded only against direct exposure to storm and draught. Under this treatment it is found that the most delicate sufferers, even in advanced stages of the disease, gain vigor almost at once, and recover entirely whenever sufficient lung tissue is left to build upon. Climatic differences are of no essential importance. As a rule, any out-door air is good enough for the purpose, provided it is never poisoned by being rebreathed.

The question naturally arises (though we do not remember having ever seen it discussed in print) why a mode of living which is so beneficial in the case of subjects reduced to almost the lowest ebb by the most formidable of chronic maladies should not be equally suitable for defending well people from its attacks. If fresh air is an almost infallible cure for phthisis, when a cure is in the nature of things possible, does it not follow, *a fortiori*, that it must also be the best agent for preventing the development of the disease in the healthy, and finally for abolishing it entirely? The dangers from exposure having proved to be wholly imaginary, so far as the frailest invalids are concerned, is it not simply absurd for people in good general condition and with lungs as yet untainted, to shut themselves up and breathe over and over again their own and each others' bodily emanations, according to the present civilized custom? Some

years ago, there was a wealthy retired confectioner, living on Long Island, who made a "fad" of fresh air; in fact, his neighbors and acquaintances regarded him as a mild monomaniac on the subject. He insisted on keeping his windows open all the year round, and thought nothing of sitting in his library with snow drifts piled up on the floor around him. He lived to a good old age, and bequeathed his fortune to the Smithsonian Institution, for the furtherance of scientific investigation into the nature and properties of the atmosphere—in other words, for propagating "the gospel of fresh air" among his benighted countrymen. These, perhaps, in another generation or two will realize that there was method in his madness.

NEW TREATMENT FOR TUBERCULOSIS.

DR. MENDELL, of France, claims to have treated twenty-seven cases of tuberculosis with marked beneficial results by injecting into the tracheal duct essential oils of an antiseptic character. The solution of the oils was based on the experiments of Freudenwirst, who placed tuberculi bacilli in glass jars corked with rubber stoppers, and found their growth was arrested and were destroyed in a few days by certain essential oils. From those oils Dr. Mendell made a mixture which he found to a certain extent satisfactory. This mixture, which was injected into the tracheal duct, was composed of the essence of thyme, essence of eucalyptus, essence of cinnamon, iodoform, each 5 grains, sterilized olive oil, 100 centimeters. This preparation may be doubled or even trebled. The syringe used contained three cubic centimeters of the mixture, and was emptied three or four times into the tracheal duct. The tongue of the patient is held outside of the mouth by means of the thumb and fingers with a napkin when the tube is inserted behind the tongue, the syringe held in a vertical position and the piston pushed. The patient, who feels the solution trickling into the lung, feels an agreeable sensation of warmth, with no cough.

In explaining the action of this treatment, Dr. Mendell says: "The medicated oil injected into the orifice of the tracheal duct descends slowly, bathing the walls, creating a large surface of evaporation at the point where the bronchial tubes branch. Before the oil is absorbed the air entering the lungs is saturated with volatile odors that destroy the bacteria; there is intense inhalation in the center of the respiratory organs, which is far more effective than any ordinary inhalation. The oil and medicine are thus absorbed by the lungs, diffused through the system and finally eliminated through the lungs and urine. We thus obtain the disinfection of the mucus of the lungs by the aid of the air, which acts as a vehicle for the medicine. This explains the decrease of cough and expectoration, the drying of the tubes and general increase of health from the reason that the lungs cease to absorb the poisonous germs within them. If the characteristics of the disease in the early stage, such as shortness of breath and panting exhalation, do not lessen, it is because the lesions are situated beyond the reach of

the channels of respiration." The introduction of medicine through the tracheal duct was first practised by Baycon in 1883, but although beneficial results were obtained the manner of injecting was not acceptable, being by insertion through the skin, and the treatment found but little favor.

NERVE TELEGRAPHY.

MR. CHARLES RICHET, in an address published in the *Revue Scientifique*, December 28, gives a very interesting statement of the recent physiological investigation upon nerve vibrations, for the translation of which we are indebted to the *Literary Digest*. He says:

"The exterior world, with all its aspects, infinitely diversified, its colors and its forms, is but the sum of different vibrations. These vibrations, of very diverse qualities and energies, act on the living being and produce sensations in him.

"Now it is very likely, and I shall try to prove this, that the vibrations in the external world act on our sense-organs by producing in us another form of vibration necessary for the existence of perception and sensation. Nerve-vibration thus seems to be the consequence and the final result of external vibrations. If there were no nerve-vibration there would still assuredly be in the world all the other forms of vibration that now exist; but they could produce no physiological effects. The human consciousness would not be reached. The living creature, by the fact of his own vibrations, is the receptacle, the microcosm, on which at each moment the different vibrations of the universe are concentrated, and the universe is accessible to our knowledge only through this vibration."

"The hypothesis that nerve-vibration is an electric phenomena is quite satisfactory, especially if we suppose that it resembles electrolytic phenomena. So nervous vibration, by its form, its period and the manner in which it dies away, can be compared to the other vibrations of the boundless universe in the midst of which we exist. But this resemblance should not make us lose sight of the abyss which separates it from all other phenomena accessible to us. The vibrations of natural forces are probably blind, but the nervous vibration can know and judge; it has common knowledge of itself and can distinguish itself from the world that surrounds and excites it."

DR. PAGE'S letter in our January issue, on the illness and death of Vice President Hobart, has caused much thought and comment on the part of those who have read it. One correspondent wrote us that it reminded him of the statement of a late United States Surgeon-General, that "Senator Sumner's death was occasioned more by treatment than by his disease. He suffered simply from a surfeit, after a dinner, and for this was treated by hypodermics of morphine, etc., from which he died."

We had hoped that physicians were becoming more sensible in the treatment of such cases, and on the whole we think they are, but there is a chance for improvement. Beware of extremes in treatment; do not starve the patient nor over-feed him.

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LEADERS IN TYPHOID FEVER. By E. B. Nash, M.D. Philadelphia: Boericke & Tafel, 1900; pp. 135; 16 mo. Price, 75c.

This little book gives the indications for the use of certain drugs, according to the author's experience. It will be found useful to such as prescribe according to symptomatology.

THE PRINCIPLES AND PRACTICE OF MODERN SURGERY. For the use of Students and Practitioners of Medicine and Surgery. By John B. Roberts, M.D., Professor of Anatomy and Surgery in the Philadelphia Polyclinic; Mütter Lecturer on Surgical Pathology of the College of Physicians of Philadelphia. New (2d) and revised edition. In one very handsome octavo volume of 838 pages, with 474 engraving and 8 plates in colors and monochrome. Cloth, \$4.25, net; leather, \$5.25 net. Lea Brothers & Co., Philadelphia and New York.

The exhaustion of the very large first edition of this standard work shows how well it has met the needs of students and practitioners, and its eminent author has fully utilized the opportunity thus offered by subjecting his book to a most thorough and searching revision. Many chapters have been entirely rewritten, new ones have been added, and every page has been revised in order to present the most recent achievements in the entire field of surgery. Everywhere will be found the closest attention to modern pathology and asepsis. In short the volume will be found a clear, concise, comprehensive and practical presentation of the most modern surgery, thus fully justifying its title.

The rich series of illustrations has been revised with equal care, and the student or practitioner will not find a more satisfactory or valuable single volume work on this subject.

Dr. Roberts is one of our ablest, progressive, modern surgeons, one who individualizes his cases, and is not confined to ruts. He has endeavored to make his work eminently practical, avoiding the unimportant and questionable.

There is no doubt of his power of analysis, his impartiality, or the soundness of his judgment—three important points in an author. The sale has already proved its popularity. The physical part is all that could be desired.

A MANUAL OF THE PRACTICE OF MEDICINE. Prepared Especially for Students. By A. A. Stevens, A.M., M.D., Professor of Pathology in the Woman's Medical College of Pennsylvania; Lecturer on Terminology and Instructor in Physical Diagnosis in the University of Pennsylvania; Physician to St. Agnes's Hospital, and to the Out-Patient Department of the Episcopal Hospital, etc. Fifth edition, revised and enlarged. Illustrated. Philadelphia: W. B. Saunders, 1898. \$2.00.

The present edition of this valuable little text-book has been thoroughly revised, contains many important modifications and considerable additional matter. The great popularity of the book is shown by the rapidity with which the editions have followed each other. There can be no mistake as to the value of the book for the purpose intended.

CONSUMPTION AND CHRONIC DISEASES. A Hygienic Cure, at Patient's Home, of Incipient and Advanced Cases. A Popular Exposition of the "Open-Air Treatment," with Latest Developments and Improvements. By Emmet Densmore, M.D., author of "How Nature Cures," "The Natural Food of Man," etc. New York: The Stillman Publishing Co., 15 Sterling Place, Brooklyn Borough; pp. 198; 12mo.

This little book is the out-growth of a meeting held in London in 1896, for the formation of a society for the prevention of the spread of consumption. The objects of the society are to educate the public in prophylaxis and cure by the "open-air treatment." While the book is intended for intelligent laymen, physicians will find much of interest in it and considerable practical information respecting these intractable cases. The methods and success of this treatment is so stated that patients may be treated in their own homes under direction of their physicians.

THE REFRACTION OF THE EYE. Including a Complete Treatise on Ophthalmometry. A Clinical Text-Book for Students and Practitioners. By A. Edward Davis, A.M., M.D., Adjunct Professor of Diseases of the Eye in the New York Post-Graduate Medical School and Hospital; Assistant Surgeon to the Manhattan Eye and Ear Hospital; Attending Ophthalmic Surgeon to the Babies' Wards of the New York Post-Graduate Hospital; Fellow of the Academy of Medicine, etc. With one hundred and nineteen engravings, ninety-seven of which are original. New York: The Macmillan Company, 1900; pp. 431; octavo.

This is the first book in English which fully covers ophthalmometry, and it will be welcomed by those interested in the subject. It is illustrated by clinical cases in detail, very clearly set forth. The work will be a great help to those who desire to use the ophthalmometer.

A MANUAL OF THE DIAGNOSIS AND TREATMENT OF THE DISEASES OF THE EYE. By Edward Jackson, A.M., M.D., Emeritus Professor of Diseases of the Eye in the Philadelphia Polyclinic; Formerly Chairman of Section on Ophthalmology of the American Ophthalmological Society, Fellow and Ex-President of the American Academy of Medicine. With 178 illustrations and 2 colored plates. Philadelphia: W. B. Saunders, 1900; pp. 604; octavo. \$2.50.

This book is intended for the general practitioner, and for beginning specialists, and it is a superb work for this purpose. The text is concise, clearly stated and well illustrated. The author is known as an eminent and practical specialist, and anything from his hand bears the imprint of genuine character. Any one desiring a manual on this subject can make no mistake in ordering this.

RECOLLECTIONS OF A REBEL SURGEON (and other sketches); OR, IN THE DOCTOR'S SAPPY DAYS. By F. E. Daniel, M.D. Illustrated. Austin, Tex.: Von Boeckmann, Schutze & Co., 1899; pp. 264.

The author of this humorous little volume is the editor of that excellent journal, *The Texas Medical Journal*, a free-lance, which attacks a quack wherever he may be found. The book sparkles throughout with original wit and ridicule, and will help to drive away the blues of the weary doctor. It will also amuse the patient in waiting, so he will not become impatient.

A TEXT-BOOK OF DISEASES OF WOMEN. By Charles B. Penrose, M.D., Ph.D., Professor of Gynecology in the University of Pennsylvania, Surgeon to the Gynæcean Hospital, Philadelphia. Illustrated. Third edition, revised. Philadelphia: W. B. Saunders, 1900; pp. 531; octavo. \$3.75.

This book has been indorsed as the best text-book of its class by eminent men in the specialty, and commended without reserve to students and general practitioners as giving the latest and best on the subject of which it treats, with the utmost clearness. The present edition has been carefully revised with some additions to bring it down to date.

The author has attempted to make the work as simple and practical as possible, and we have no hesitation in commending it to our readers.

The physical part of the work is also most excellent.

BRUCE'S PRINCIPLES OF TREATMENT. The Principles of Treatment and Their Application to the Practice of Medicine. By J. Mitchell Bruce, M.D., F.R.C.P., Lecturer on the Practice of Medicine in Charing-Cross Hospital, London; Examiner in Medicine, Royal College of Physicians, London. Revised to conform with the U. S. Pharmacopœia by E. Q. Thornton, M.D., Jefferson Medical College, Philadelphia. In one octavo volume of 625 pages. Cloth, \$3.75 net. Lea Brothers & Co., Philadelphia and New York.

This work can be studied with advantage by the advanced practitioner as well as the student of medicine. "It starts by assuming no therapeutical laws, but proceeds to find them in the familiar facts of etiology, pathological anatomy and the clinical characters of disease. Having mastered the most simple therapeutic principles the reader is led up to higher generalizations, which relate to the nature of disease and its proper relation to treatment."

THE AMERICAN YEAR BOOK OF MEDICINE AND SURGERY, being a yearly digest of scientific progress and authoritative opinion in all branches of medicine and surgery drawn from journals, monographs and text-books of the leading American and foreign authors and investigated, collected and arranged with critical editorial comments by Samuel W. Abbott, M.D.; Archibald Church, M.D.; Louis A. Dubriny, M.D.; D. I. Edsall, M.D.; Alfred Wandj, M.D.; Milton B. Hartzell, M.D.; Reid Hunt, M.D.; Wyatt Johnston, M.D.; Walter Jones, M.D.; David Reisman, M.D.; Louis Starr, M.D.; Alfred Stangel, M.D.; A. A. Stevens, M.D.; C. N. Stewart, M.D., and Reynold W. Wilcox, M.D., under the general editorial charge of George M. Gould, M.D., Philadelphia; W. B. Saunders, 1900.

In order to make the work less tiresome to hold in reading it is issued in two volumes, one devoted to medicine and the other to surgery. Each volume can be had separately; price \$3. The general plan of the work has been so clearly outlined on the title page it is only necessary to say that the editors have shown excellent judgment in their selections of facts and their critical analyses of some of the important subjects recorded. A fair picture has been given of the new medical thought of the past year.

The death rate in Dublin has reached 49 per 1,000. Prof. Schenck, who was recently compelled to resign from the University of Vienna, has announced his intention to go to some other country to carry on his special work.

Of the one hundred and sixty-two candidates who

came up before the State Board for medical license in 1899, 78 per cent. was successful.

THE INTERNATIONAL MEDICAL ANNUAL, Synoptical Index to Remedies and Disease for the Twelve Years, 1887-1899. E. B. Treat & Co., 1900; price, \$2.75.

This book is not merely an index to the medical annual for the past twelve years, but it contains also in a very condensed form those facts which are likely to be wanted for reference in every-day practice. Reference is made with each subject to the original text. It will be seen that the work will be of great value not alone to those whose library contains the original volumes, but by its clear condensation of facts to every physician.

A PRACTICAL TREATISE ON DISEASES OF THE SKIN. For the use of students and practitioners. By James Nevins Hyde, A.M., M.D., Professor of Skin, Genito-Urinary and Venereal Diseases, Rush Medical College, Chicago; Dermatologist to the Presbyterian, Augustana and Michael Reese Hospitals of Chicago, and Consulting Dermatologist to the Chicago Hospital for Women and Children, and Frank Hugh Montgomery, M.D., Assistant Professor of Skin, Genito-Urinary and Venereal Diseases, Chicago Clinical School; Attending Physician for Skin and Venereal Diseases, St. Elizabeth Hospital, Chicago. Fifth and revised edition. Illustrated with 111 engravings and 24 plates in colors and monochrome. Lea Brothers & Co., Philadelphia and New York, 1900; pp. 863; octavo.

The fact that the previous edition of this standard work was exhausted in less than two years shows with what appreciation it has been received. The present edition has been thoroughly revised by elimination and acquisition to meet present conditions, and many new and original illustrations have been added. This book stands in the front rank as a source of information in practical dermatology.

CORRESPONDENCE.

SCIENTIFIC INVESTIGATION AND THE PRACTICE OF MEDICINE.

As we survey the field of medicine as it exists to-day we become perplexed by the multitude of "pathies" and "isms;" of conflicting opinions and diverse practices, until at last we are led to inquire, Where do we stand?

With such a query on our lips it becomes our duty as physicians to faithfully search, not hurriedly and superficially, but calmly and critically, for

"Errors like straws upon the waters flow;

He who would seek for pearls must dive below,"

and having found the pearls of truth to so arrange them that at last we may be rewarded by a new dawn, the dawn of the day when law and order shall have replaced chaos.

On the one hand we have the "nihilism" so far as drugs are concerned, of the majority of the profession, at the other extreme the dogmatism of those whose practice is tied hard and fast by their so-called *law*, while between are those who while largely guided by a rule of practice yet find that beyond that limit there are many principles of which one can avail himself in the care of the sick.

I need only mention to condemn the practice of the "routinist" with a favorite prescription for each and every disease. Such prescribing is poor "Art" and worse "Science."

I associate this inquiry with the name of Hahnemann

for various reasons. It is now about one hundred years since Hahnemann emphasized the importance of the dictum, "*Similia similibus curantur*."

Many changes have taken place since then, yet on the one hand we have many jeering at Hahnemann and his "spirit-like forces," "psora theory," etc., while on the other hand are those who, calling themselves his followers, seem to have lost sight of everything but his most extravagant speculations, and bid fair, as Dr. Hughes has so aptly said, to out-Hahnemann Hahnemann.

Now, I believe that a careful study of the organon will warrant us in assuming that were Hahnemann alive to-day his practice would not be confined to any one school or "pathy," but that he would gladly avail himself of the vast stores of knowledge accumulated with great labor by such men as Virchow, Pasteur and Koch, as well as of the results of the innumerable investigations in the field of drug action, whether from the standpoint of what we may call on the one hand the physiological action or on the other hand the pathogenetic action. In other words, I am of opinion that Hahnemann would be neither a dogmatist nor a nihilist, but would aim to be a physician in the broadest sense of that term.

1. The physician's highest and only calling is to restore health to the sick, which is called healing.

We have grown accustomed to hearing much of the "Scientific School of Medicine," and while the name has a true ring about it, it is apt to prove misleading by reason of the fact that there is room for much questioning as to what constitutes a scientific medicine.

It is not my purpose here to enter into a discussion as to what is a science, but merely to examine briefly the relationship existing between scientific investigation and the Practice of Medicine.

Sir J. Burdon-Sanderson, Bart., M.D., in an address delivered at the Middlesex Hospital* in comparing the progress made by the two great branches of practice, medicine and surgery, points out that scientific investigation has influenced the latter to a much greater extent than the former, in which progress has been made principally along the lines of clinical discovery. He instances the benefits which have followed research into the nature and causes of traumatic infection, and also the strides which brain surgery has made following the scientific discoveries of cerebral localization.

He goes on to say: "As regards medicine, the influence of scientific discovery in recent times has not been so obvious. Progress has been made, but in a different way, and much more gradually. It has been rather in nosology than in pathology—rather in the distinctive characteristics of disease with a view to diagnosis and treatment than in the investigation or solution of the difficult pathological problems which underlie the manifestation of disease in internal organs. A chief reason for this may, I think, be found in the great extent and complicated nature of the ordinary clinical investigations which it is the life-work of the physician to make, with an immediate view to diagnosis and treatment—investigations which are so engrossing that if he carries them out thoroughly and conscientiously he has no time left for any systematic inquiries excepting those that are directed to these ends.

"In saying this I do not for a moment suggest that it could be or ought to be otherwise. * * *

"To acquire clinical experience for oneself, to assimilate the experience of others, and to unite the items of the two kinds of experience so gained into a whole, so as to be able to bring them to bear at any moment on the elucidation of cases, is sufficient life-work for any man."

* *Brit. Med. Jour.*, Nov. 11, 1899.

The physician's highest calling is the healing of the sick.

Then is pointed out another way of regarding disease as a subject of scientific investigation, and stress is laid upon the importance of assigning "its true value to each of these two aspects of medical knowledge, the practical and scientific, of which the first may be considered as the source of efficiency in the art of healing, the kind of knowledge which makes the physician supreme in the hospital and the sick room, the second as having in it the promise of the future."

On the one hand the scientist, the investigator in his laboratory, on the other the physician, the clinician in the sick-room.

Which will suffering humanity choose? Some of us may call to mind Eugene Sue's description of a very scientific physician in his "Mysteries of Paris":

"Doctor Griffon was a tall, thin man, very pale, and completely bald, except two very scanty tufts of black hair, most carefully gathered from behind, and laid flat on the forehead; his face, wrinkled and furrowed by hard study, expressed at once intelligence, reflection and coldness.

"Of immense knowledge, consummate experience, a skilful and renowned practitioner, principal physician of a civil hospital (where we shall find him by and by), Dr. Griffon had but one defect—that of making, if we may so express it, a complete oversight of the patient, and attending only to the disease, young or old, man or woman, rich or poor, no matter; he thought only of the medical fact, more or less curious or interesting in a scientific point of view which the *subject* offered.

"For him there only existed *subjects*."

Look into the face of the doctor in Luke Field's well-known picture and see the physician, with anxiety and solicitude, watching the little sufferer in the hope of relieving his suffering; see behind the careworn expression on the faces of the parents faith and trustfulness in their tried friend depicted, then choose between "The Doctor" and Doctor Griffon.

Far be it from me to decry the work of the scientist, for it is rather my purpose to show the absolute need for greater work along scientific lines; but what I wish to emphasize is the fact that the physician's workshop is in the sick-room, that of the scientist in the laboratory.

The physician requires a scientific training, a scientific attitude of mind in order that he may weigh facts presented to him and make his deductions therefrom; but his is an art and his success or otherwise depends on his ability to apply his knowledge to the cases before him. The importance of the personal equation cannot be too greatly emphasized.

I do not refer so much to a peculiar manner, a personal characteristic, which may conduce to his worldly success as a physician, but rather to that faculty of knowing when to interfere with nature, when to refrain, how to assist nature, and in short, given certain remedial agents, and a patient requiring help, to so apply those agents to the end the patient may be quickly, thoroughly and pleasantly restored to health.

But there are many facts relating to morbid processes, many facts concerning remedial agents which cannot be learned at the bedside, and it is here that the work of the scientist comes in. Let disease in its many aspects, nay, even normal processes themselves, be thoroughly investigated by competent scientific men; let our knowledge of drugs or other agents be added to through the agency of scientific research, and the usefulness of the physician will increase as his knowledge increases, his knowledge of disease and his knowledge of remedial agents. The

scientist to investigate, the physician to apply, the patient will do the rest.

To Hahnemann the scientist must be given the credit of being the first to thoroughly investigate the action of drugs on the healthy human being, and to Hahnemann the physician belongs the credit of being the first to apply the knowledge thus obtained to the treatment of disease.

I am drawn irresistibly to the conclusion that Hahnemann ranks among the first, if not the first, of the modern school of scientific medicine.

But our knowledge has increased greatly since the days of Hahnemann. We are not vitalists in the sense understood in those days. We now prefer the cellular basis of both physiology and pathology; our methods of diagnosis have greatly improved. Have our methods of investigating drug action improved *pari passu*? It is true that much has been done by such men as Lauder Brunton and many German pharmacologists in the study of the so-called physiological action of drugs, making use of the lower animals, but in the more distinctively Hahnemannian method of studying the effect of drugs on the healthy human being advance has not been commensurate with the advance of knowledge along other lines. To-day drug provings, as they are called, are carried out practically as Hahnemann directed, subjective symptoms being recorded to the exclusion of all else, and every proving only adds to the cumbersomeness of the *materia medica*. Why this unprogressiveness in so important a branch?

The answer, I think, is not far to seek. The work has been left almost entirely in the hands of the practising physician, whose daily routine of work will hardly allow him to spend hours in a laboratory; yes, in a laboratory, for scientific work of this kind should be carried out there.

If each of our medical schools would establish an institute of pharmacodynamics under the care of a scientific man who would devote his time to the subject much might be done. Material, if I may be permitted to use the term, should be easily obtained. There are many intelligent, healthy individuals who would gladly submit to any slight inconvenience which might arise from a proving, in exchange for a home during certain times of the year at least. Such as the maimed or even blind.

What could not be accomplished by scientific investigation of this sort? If it accomplished nothing else it would serve to establish the claim of therapeutics to a place in scientific medicine.

What a weeding out there would be in the *materia medica*; what joy to the physician to approach the bedside of his patient feeling that he was guided by the clear light of scientific truths; what a monument might be built for all time to the memory of Samuel Hahnemann, a Scientific Physician.

EDGAR A. GRAFTON, M.D., C.M., L.S.A., London.
Montreal, Feb. 10, 1900.

A SENSIBLE ANSWER.

Dr. F. Park Lewis, of Buffalo, N. Y., ex-President of the State Homœopathic Medical Society, being asked his opinion of the definition of a homœopathic physician, as adopted recently by the American Institute of Homœopathy,* replied in part as follows:

"The question stated in your letter is important, and it is difficult without previous consideration to reply to

*"I define a Homœopathic physician as one who adds to his knowledge of medicine a special knowledge of Homœopathic therapeutics. All that pertains to the great field of medical learning is his by tradition, by inheritance, by right." (Trans.)

you as briefly and explicitly as I would wish to do. I have no hesitation in saying, however, that if you will permit me to modify your definition it will meet with my cordial approval. I should substitute for the word "*Homœopathic*" the word "*cultured*," and then you would have described the educated, scientific and progressive physician of to-day. Although very generally homœopathic physicians *are* broadly educated men, unfortunately all do not complement their knowledge of homœopathic therapeutics by a familiarity with modern medical methods—and if they did, that in itself would be full and sufficient reason why they should not be limited by a specific designation.

The homœopathic application of drugs is but one phase—important as that may be—of a scientific therapeutics. It is the secondary or dynamic action—following the primary or physiological; each is important in its own sphere and for its own purpose. But as illogical and unwarrantable would it be for physicists who deal with ponderables to separate themselves into a school as opposed to those physicists who deal with molecular activities as for therapeutists to form into two opposing and non-affiliating groups. It is two sides of the same shield, and those who limit their own usefulness—by ignoring half of an essential truth, cannot hope to accomplish the full measure of their possibilities. The "*Homœopathist*," by permitting the designation to be applied to him, gives color to the belief which no statement published in bold type will negative, that his belief and his practice include but one-half of a therapeutic truth.

Unfortunately the attitude of the medical mind for a century past has been so cramped and polarized that a justifiable feeling existed that to drop a sectarian designation was equivalent to relinquishing a belief and the desire has often been much stronger to maintain an attitude once assumed than to determine the exact truth in all of its relationships. But a higher criticism is as relentlessly exposing the assumptions of medicine—as it already has done in theology, and I believe that the time has come when our position as medical men should be made to conform with the facts.

Homœopathic physicians, with very few exceptions, everywhere throughout the world in the treatment of their patients use whatsoever, in their judgment, seem good. They use electricity—serum therapy, the chemistry involved in dietetics, hot or cold baths, lenses before the eyes, and what-not, but they are not therefore "*electric*" physicians, or "*dietetic*" physicians or "*hydrotherapists*," or "*eye specialists*" (thank the Lord!). Why then "*Homœopathic*" physicians?

In my judgment the time has arrived when all sectarian designations should be dropped. Now, as never before, the dynamic forces in the world are being investigated. The study of molecular physics is opening a new scientific world; the secondary, the molecular, the homœopathic action of drugs should be studied with a critical accuracy such as it has never yet received; but let us study it as scientists, not as sectarians, and if our work is conducted on the lines which modern science demands, our conclusions will be accepted with the readiness which they merit.

I am now, therefore, prepared to answer your question. An educated physician, to be such must supplement his knowledge of general medicine with a knowledge of the secondary, the homœopathic action of drugs; and a physician, even though he be a homœopathist, who lacks a knowledge of the physiological action of drugs, is wanting in one of the essentials of broad medical culture."

HOSPITAL REPORTS.

A CLINICAL LECTURE.*

BY GEORGE L. PEABODY, M.D.,

Visiting Physician, New York and Roosevelt Hospitals, New York City.

Case 1. Gas Poisoning, Followed by Pneumonia and Acute Parotiditis.—This woman is 37 years of age, a widow, a native of England, who lost her father and mother, both dying from heart disease, the former at the age of 75, the latter at the age of 47.

She has had no children and no miscarriages.

You will see that this history of heredity has no bearing upon the case at all; yet do not ever overlook the history of age, occupation, family history, preceding history antedating the disease; it is extremely important that this should not be neglected, and if it is neglected you will find occasion to regret it. Such careful history taking might be the means of clearing up doubtful and otherwise impossible diagnosis. All the organs and the urine should be examined in every case. If a man comes to you complaining of gout in his right foot it seems to me that it would be irrelevant to listen to his heart; yet it is important that you should examine the different organs.

She has always enjoyed fair health. She gives no history of a sore or suppuration from any source. She drinks beer and wine. On October 24, she went to bed as usual. In the morning she was found unconscious, partly dressed and lying upon the bed. The window was closed, and there was an odor of gas in the room, escaping from one or two gas jets. She was brought to the hospital in an ambulance. She could give no accurate account of the accident. She was admitted to the hospital at 10 P. M., probably twenty-four hours after the beginning of the accident. Her temperature was 100.8° and her respirations were 24. The patient was in a pretty deep stupor, from which she could be partly aroused. Her tongue was dry, coated and fissured. Her heart, lungs, spleen, and liver were examined and found to be normal. Her extremities were normal. This was on October 25, nine days ago. Her condition then was not such as called for treatment for gas-poisoning. If the pulse was feeble treat that or other symptom that calls for attention. In these cases of gas-poisoning, in general, when we find they have recovered consciousness no treatment is needed. Probably there is a sudden and abundant supply of poison for which there is not much of an outlet except from the lungs; this gas exerts a damaging effect upon the blood which may be permanent.

The next morning, when the house physician made his rounds, there was found a temperature of 103°, and there were some disturbances of respiration, Cheyne-Stokes in character, and quite rapid. The chest was examined again, and there was ascertained obvious signs of consolidation over the lower lobe of the right lung. There was a little dulness, bronchial breathing, and râles. Now, after a few days of continued symptoms, a gradual resolution began; there was no crisis. The temperature remained, running from 100° to 102° or 103°, but always above 101°; there was no crisis, but a gradual subsidence of physical signs with no trace of consolidation except the râles. She has had no stupor at all. This is a good illustration of pulmonary consolidation of an actual pneumonia where the diffused products in the air vesicles may be carried away by the lymphatics without being

*Held at the New York Hospital, November 4, 1899.

coughed up at all. It is to that fact that I want to call attention.

After having been in here nearly a week, i.e., on October 30, she began to complain of soreness at the angle of her jaw. There was found a little swelling over the left tonsil and some tenderness in the left parotid region. The next day the area of the left parotid region was found to be indurated and distinctly red, hard, tender and painful, and she could separate her teeth but very little. We have watched the parotid region with a good deal of apprehension, but there has been no material change except it has become more hard and tender. The parts were dressed with carbolic lotion, 1-60 solution, applied on a cheese cloth and covered with gutta percha tissue; since then there has been a slight improvement in the induration, tenderness and pain, with a gradual subsidence of these symptoms, and she is now better. There has been at no time fluctuation or evidences of suppuration which could be distinguished. But, now, at this point where my finger is, which is just beneath the lobe of the ear, there is to be found a very minute white point, so small that unless you had a good light you could not see it; it is very small but it gives fluctuation. It may be a superficial fluctuation at the present time. We are hoping by the application of carbolic acid to cause resolution. Now, what is the connection between these two sequelæ of gas-poisoning? It is, in all probability, a streptococcus inflammation which caused the pulmonary condition and which is now causing this present complication. People who suffer from coma from any cause are likely to inhale material that ought not to go down. Sometimes there is an inhalation of the bacteria of infection, which may be followed by pulmonary gangrene. When a case of pulmonary gangrene is met with always find out if the patient had been unconscious. The inference is that this is a streptococcus inflammation, that this parotid inflammation—a distinct parotiditis—is a streptococcus inflammation which may have had its origin in the mouth or in the pharynx, or the tonsils, setting up an inflammation of the parotid gland by way of Steno's duct. Remember, in typhoid fever, to keep the mouth clean, and for this same reason. On the other hand, the inflammation may have proceeded from the blood and not from the mouth, but from the lung through the blood. It does not seem to me that it is likely to be the latter condition, for we then should have a more serious condition and other evidences besides this one. There are no evidences of general sepsis, and so it is more likely that the parotiditis has been set up by infection through the duct of Steno. The occurrence of parotiditis is not without danger, and it is this condition which necessarily excites apprehension. Sometimes spreading from it we have what is called angina Ludovici, which is really a cellulitis of the deeper tissues of the neck, and which is apt to come on with very great violence and suddenness, and interferes with respiration by the sudden œdema and swelling about the glottis and the pressure effects, etc. With immediate surgical interference the outlook is good. Another condition to be thought of is thrombosis. There may be thrombi of septic character, and the consequence of their lodgement I need not now take up your time with. Another possibility to be thought of is general sepsis developing secondarily to this. All of those conditions we hope to avoid, and we feel fairly justified in believing that the symptoms and the intensity of the physical signs have abated under the use of carbolic acid. This is used in weak solution because carbolic acid is absorbed through the unbroken skin. I have seen the application of a solution of car-

bolic acid in a 1-40 strength, result in poisoning. I have seen in an emissary of the Board of Health a carbolic acid bottle broken in the pocket and so producing poisoning. The urine, in this instance, has shown us nothing. This case is then primarily one of gas-poisoning, with secondary development of pneumonia, and, following that, acute parotiditis on the left side.

I wish to refer to a case seen here last year by many of you. The case was that of a man who had had repeated hemorrhages. He had twelve hemorrhages a day, and we had to apply serum artificially. I met that same man a few weeks ago, and he appeared strong and well, and he came up and reminded me of his condition. It is interesting to know that men can recover from such serious conditions.

Case 2. A Case for Diagnosis.—This patient is a woman, 38 years of age. She is married, and is a native of Ireland. Her history is not a satisfactory one. She was admitted on the 30th of October. Her family history is negative. She has had attacks, probably epileptic, since birth. Her last child was born sixteen years ago. Her menstruation ceased four months ago. She drinks beer. A few weeks ago she was found in a semicomatose condition. She has no knowledge of what preceded, but probably she had an epileptic attack. She has no recollection of any attack. Since then she has been in bed in a stupid condition and with loss of memory. She has vomited some. She has had no movement of the bowels. She now has abdominal pain and ringing in the ears. To recapitulate: She had an epileptic convulsion on October 25, since which time she has had aberration of memory, stupid condition, vomiting and constipation; during past few days she has had abdominal pain, ringing in the ears and no appetite. Her tongue on admission was moist, and along the edges were found scars, and deep depressions in the tongue showing an injury there, which is one of the stigmata of epilepsy. The apex beat is not felt. It is loudest in the fifth intercostal space, but is heard very indistinctly. The pulse is small and regular. Sonorous râles are to be heard over both chests. The liver and the spleen are normal. The abdomen is prominent, pendulous and covered with striæ. There is a little œdema of the lower extremities and some varicosities. There is some ecchymoses over the left foot. The fact that there is some tenderness over the abdomen, with some pain, and the fact that she had vomiting and no movement of the bowel since 25th of October leads us at once to investigate and see if the lower bowel were emptied. Since admission she has had repeated enemata, of large size, amounting to three or four quarts at a time, administered through a long tube and containing various agents which had a stimulating effect upon peristalsis. She has had high enemata of cotton seed oil, castor oil, turpentine, etc., repeated time and time again. These enemata were preceded by the administration of cathartics by way of the mouth. On admission she was given five grains of calomel and a saline on the following morning; since then she has had no laxative drugs by the mouth at all, because it has only been since then that her constipated condition was noted. We fear some obstruction in this case. All of these enemata have been ineffectual. I do not mean to say that she has passed no feces, but only a little staining. There has been a rather increased consistency in the feces, so that the obstruction is not absolute. It is only partial, which would accord with the fact that her constitutional symptoms had not yet developed. She has vomited three times since entrance, but it has ceased entirely since the administration of peptonized milk. There has been no

marked range of temperature, 99° occasionally and sometimes 99° with a fraction. We should first think of intestinal obstruction, but the eyes are not sunken, and there is no marked pallor or emaciation such as we get in the early stages of complete obstruction. The vomiting has never been fecal, but has been made up of fluid which was at first yellowish green; there has been no recurrence of it.

The first thing to look for is fecal impaction. That was suggested when she first came in by the presence of a movable mass in the median line, but that has disappeared and has not been noted since then, and yet has not come away in the discharges from the bowels. The fact that she has not menstruated for four months, that the uterus might therefore be increased in size and overlapped by viscera, might lead one to suspect a cause from this source.

The next thing to look for after excluding fecal impaction—and that has been done in this instance by an examination *per vaginam*—is hernia. Very good men, yes, better even than you and me, have overlooked hernia as a cause of intestinal obstruction, and have allowed patients to die because they did not think of such a simple thing as hernia and looked for more obscure and deeper causes of the condition. Then again very good men who have looked for hernia and not found it have overlooked other causes of intestinal obstruction. A small portion of an intestine may get into a hernial sac and so produce obstruction. In some of these cases where hernia has been the cause of the obstruction it has not been possible to recognize it by means of examination. So always bear in mind these possible cases. In this instance we have found a large ventral hernia which is capable of being reduced. Her abdomen is pendulous and she cannot wear corsets. When I feel below the umbilicus she winces. She had an epileptic convulsion last night and is now partly in a stupor. When I feel one inch below the umbilicus I make out a distinct opening, and alongside my finger I note a semi-solid mass. Now this mass has been repeatedly and repeatedly reduced, and yet it has not been accompanied by the subsidence of symptoms. Now watch and see the hernia return which I have just reduced; upon coughing it returns. It does not project in a finger-like form such as one would expect to find at the umbilicus. This ventral hernia is the only physical sign bearing upon the trouble. The occlusion of the bowel is not absolutely complete. This is important in regard to therapeutics.

As to other possible causes we may deal with foreign bodies, among which I think round worms may be discarded. Gall stones may be included in foreign bodies, and I have seen this a few times. In these cases gall stones of large size form nuclei around which feces form. Gall stones never pass from the gall bladder into the duodenum without setting up a duodenitis; this history we do not have to aid us. Gall stones usually effect their entrance into the bowel through ulceration through the gall bladder. In one case of mine the stone was found in the ileum. In thin subjects one should be able to feel through the abdominal wall and make a diagnosis.

Enteroliths are not common in the human subject. They are ordinarily made up of a nucleus which is surrounded by accumulations of fecal matter, found commonly in animals, but not common in the human subject, although it may appear more often in insane people.

Pelvic tumors, such as ovarian tumors with long pedicles, malignant disease of the bowel, etc., may cause constriction. I have seen epithelioma of the bowel pro-

duce an annular constriction, hard, dense epitheliomatous tissue which produced complete obstruction. Yet the tumor was small, so much so that it could not be made out. That is a rare condition, but it does exist. Constriction from other disease of the bowel, as from non-malignant disease as tubercular, may occur. When that occurs we expect a gradual onset of symptoms with a great deal of pain.

I think the most important cause of intestinal obstruction is volvulus or a twist of the bowel. That is a cause which, it seems to me, is most likely to be found here. It is one that is predisposed by anything like a long mesentery.

Intussusception is a possible cause. But intussusception is exceedingly rare except in childhood, and it is very apt to give you a series of symptoms that this woman has not had at all. As a consequence of intussusception you are likely to have severe pain, local tenderness, with the appearance of a sausage shaped mass ordinarily felt, and apt to be in the neighborhood of the transverse colon; then, too, you are exceedingly apt to have a discharge of feces because the intussusception occurs in the small intestines. From the increased activity of peristalsis you are apt to have mucous and blood together with a good deal of local pain. None of these symptoms have occurred here, and so such a condition is unlikely to exist in this case.

Where the urine is as abundant as it is here the obstruction is not likely to be high up. When the urine is scanty the obstruction is high up, for the reason that if the obstruction is in the duodenum the fluid taken into the stomach is practically all vomited, for there is no time for absorption; if the obstruction is low down the urine is usually abundant because the absorption of fluid is not interfered with. In this instance the urine is abundant, and the inference, therefore, is that the obstruction is low down. We should also note that there is an absence of fecal vomiting.

As to the prognosis, of course that depends upon what the cause of the obstruction is. As yet we are entirely in the dark. I think indican is something of a guide, for, if the obstruction is high up, indican is increased.

I do not think there is any danger of making a mistake of confusing this case with obstruction from various other things which might be imposed upon you. Any condition of very profound collapse may be accompanied by obstinate constipation. Case of peritonitis following appendicitis presents so many symptoms of obstruction that the diagnosis of that condition has been made; the same thing can be said of gall stones and renal calculi.

Besides fecal impaction, intussusception, gall stones, etc., false ligaments might be considered as a cause. Meckel's diverticulum is due to the persistence or incomplete obliteration of the vitelline duct, and when present comes off from the ileum from 1 to 3 feet from the cæcum. In its most complete condition it appears as a tube passing from the ileum to the umbilicus. The process may be free or attached at its distal extremity. Occasionally it has a mesentery of its own. This sometimes forms a loop through which the intestines may become strangulated.

Another cause which might be considered is diaphragmatic hernia. In that instance we would expect more pulmonary symptoms, more interference with respiration and the physical signs show movable fluid in one pleural cavity.

As to the prognosis, as already stated, it depends

upon the lesion, and, in this instance, we must say that it is very indefinite.

As to the treatment in all cases of medico-chirurgical conditions we certainly should see the patients early and often; so, in this case, Dr. Weir was asked to see the patient. He has seen her daily, and he feels that, as long as there is hope of recovery without surgical interference, it is better not to resort to surgery. So long as the patient passes feces by the bowel and as long as the condition remains fairly good do not interfere. Washing out the stomach should never be neglected in these cases. In some cases where the stomach has been emptied of a considerable amount of fluid it has been followed by a subsidence of the symptoms. An actual cure can be so produced. In other cases where the vomiting is apt to be marked relief is often to be had. In no cases of intestinal obstruction should washing out the stomach be omitted. That procedure has been performed in this instance.

If there should develop either complete cessation of fecal discharge or the advent of grave symptoms I should urge upon Dr. Weir laparotomy.

SURGICAL CLINIC.

BY ROBT. T. MORRIS, M.D.,*

Professor of Surgery at the New York Post-Graduate Hospital.

Case 1. Myoma of the Uterus.—The first patient upon whom I shall operate is E. H., aged 44 years, a native of the United States, a housewife by occupation. Her previous history shows that she has had generally good health. She has had diseases common to childhood. She began to menstruate at the age of 13, and was married at the age of 22. She has had one child, but no miscarriages. This child was born 21 years ago. Her menstrual periods have been regular, but about five years ago they began to be painful. Since last March she noticed that they were increasingly painful; and at this time she noticed a growth in the abdomen. Since then it has grown rapidly, more so during the past three months. She has lost no flesh. Her appetite has been good. She has felt but little pain from the presence of the tumor.

In these myomata, with or without fibroid degeneration, I favor a conservative treatment, but in many cases the uterus must be removed. This is one of the common cases in which the myoma developed rather slowly. Her change of life has not yet appeared. The question as to whether we should operate or not in cases of myomata occurring in patients previous to the change of life is one for serious consideration. There are two or three definite reasons for operating for myomata or fibromata; the cases are so closely allied that they shall be classified together. In the first place we operate for hemorrhage. That is, perhaps, the commonest reason for operating in these cases. Next, we should operate for pressure effects, i. e., where a myoma, or fibroma, or a fibro-myoma, is found which is large enough to occasion trouble by pressing upon the bowel, or the contents of the pelvis, we have a sufficient excuse for operation provided we could not make the patient comfortable without it. Again, we operate upon all cases, as a rule, that are developing or have developed after the change of life; the reason being that they are particularly apt to undergo malignant degeneration. So we operate regularly on cases of myomata or fibromata developing after the change of life; also, for hemorrhage and for pres-

sure effects, before the menopause. Now, the question comes up as to whether we shall tell a young patient, before the change of life, that she is in danger of death. What should we do? If a patient is in good health, attending to her ordinary duties, yet with the knowledge that the pressure effects her bladder, sometimes disturbing her bowels, at times there being numbness of the legs and pressure on the nerves producing reflex sensations, the question arises shall we wait two or three years until the change of life? Shall we operate or not? That question came up one year ago in the wife of a physician whom I examined. I suggested that we should not operate since she was but two years removed from the change of life. Two months ago she was brought to New York suffering from a great deal more marked pain in the abdomen, and she asked that the operation be done. I operated and found that the uterus was undergoing sarcomatous degeneration. That sarcoma had extended to the peritoneum, and the case was a hopeless one. If I had operated at first, when the physician brought his wife to me, instead of being so conservative, she might have been alive to-day. It is extremely difficult to decide whether we are justified in operating or not. Shall we operate upon cases previous to the change of life, where there is not much disturbance, for the purpose of anticipating serious consequences later? My opinion is that it would be better to place the matter directly and fully before the patient and let the patient make the decision.

Operation.—This is a very large tumor extending up to the umbilicus, and I must make a larger incision than I like to make. With the scissors I cut through skin and the fat in the median line. There appears to be no muscularis there. There is free fluid escaping from the abdomen, which I do not like. The bladder has been tilted up. I am now breaking up the adhesions between the uterus and the fibroid, taking care that the intestines shall not escape. The uterus is seized with a volsella forceps by my assistant, and a good firm grasp made on the mass. I will now ligate the uterine artery if I can. With the sense of touch I locate the ureter. Now the question arises, can I do the conservative operation and leave the ovaries instead of precipitating the change of life? I am going to try it; even if I fail I can do no harm. I calculate to remove the uterus anyway. With a large curved needle I ligate the uterine artery. If I can I shall ligate all but the ovarian artery, leaving it and so preventing the change of life; this is by retaining the internal secretion of the ovary.

On this other side I find that the ovary is a degenerated one, so I will remove it. It is important that one ovary should be left in order to permit the secretion to continue and so not precipitate the menopause. The hemorrhage in these cases is not of great moment, because we can transfuse if need be. I will now remove the uterus and stitch the stump to the abdominal wall. I have now shelled this growth out assisted by the scissors. The stump I am making funnel-shaped. I place aristol on the stump so as to make it shed serum that might otherwise filtrate the wound. The operation of taking out the uterus is now complete. The peritoneal surfaces are rolled over so that they can come together. Saline solution is poured into the pelvis. In sponging, be careful to sponge against the hand, and not against the bowl; that is very important and tends to prevent shock. The omentum should be smoothed over the bowels. Large catgut irritates the peritoneum and forms adhesions of peritoneum to the abdominal wall, and the patients are made very uncomfortable afterwards. Very

*Held December 13, at the N. Y. Post-Graduate Hospital.

small catgut should be used. Be very careful in getting the peritoneal surfaces together. In twenty-four hours these peritoneal surfaces should be perfectly adherent. Next, I close the rectus and pyramidalis accurately. Great pains are taken to get the muscles together evenly so that repair will be complete. This matter of post-operative hernia is prevented by using precaution in leaving things as they were found. In many hundreds of abdominal operations I do not believe that I have one per cent. of hernia following these operations. One should be very careful to unite the different structures. It takes more time to make a close approximation of the different structures, but it is worth while. Another important point is that I shall not attempt to suture the fat; in that way one avoids stab cultures of the staphylococcus. Subcutaneous suturing is much to be preferred. The fat will remain closely approximated by means of atmospheric pressure. You never need sutures to keep together fat in any abdominal operation; if it be a foot thick they are not needed. The same principle is seen in the boy's toy of a piece of wet leather and a stone, the wet leather holding the stone closely, acting as a sucker.

Case 2. Appendicitis.—This next case is one of appendicitis. One year ago this patient had an attack of abdominal pain; there was general abdominal tenderness, vomiting, nausea, and he went to bed remaining there three or four days. Soreness of the abdomen remained for a week or so afterwards; then he had complete recovery except that he had constipation and some dyspeptic symptoms. He attended to his ordinary duties, and he was a case that would be considered quite well by most physicians. Yet, he had dyspeptic symptoms nearly all the time, never being quite well. That is a common history; the case after supposed recovery from an acute attack of appendicitis continues to have these dyspeptic symptoms, and it is due to the fact that peristalsis of the colon is inhibited by adhesions of the colon and cæcum. As a result there is fermentation instead of complete digestion, and the patients have various dyspeptic symptoms, chiefly intestinal. Again, there may be fecal concretions or mucous inclusions in the appendix causing reflex disturbances, or there may be adhesions causing dyspeptic disturbances. Otherwise the patients claim that they are well. Later they have another attack; they may have several attacks.

Upon palpation I find the appendix distended and not very adherent, but, I think, somewhat adherent to the cæcum. It is about three and a half inches long, and I think it contains a mucous inclusion. A great many cases, after the first attack of appendicitis present some forms of mucous inclusion. The mucus distends the lumen, bacteria develop, and the case develops acutely. In palpating the appendix stand upon the patient's right, using three right-hand fingers to feel with and three left-hand fingers placed upon these to press with. The fingers that are to do the feeling are pressed by means of the three others down under the border of the right rectus abdominis muscle at the level of the navel, and slowly drawn toward the examiner. My sole landmark, the ascending colon, is then let slip out from under the fingers, and by repeating the process toward the cæcum we soon come to the end of the cæcum, and there begin to hunt for the appendix by rolling the cæcum from one side to the other of the finger tips. The proximal end of the appendix is found near the distal extremity of the cæcum, and we then follow the rest of the appendix in any direction. The cæcum should be fixed against the psoas or iliacus muscles.

Yesterday I thought this was a mucous inclusion case

with the presence of muco-pus. But to-day, with the patient asleep, it feels like a hypertrophied muscularis; it feels far more like that than a concretion, or a mucous inclusion.

I shall make my incision one and a half inches from the anterior superior spine of the ilium, on a line running to the umbilicus; this corresponds to McBurney's point. With a pair of scissors I cut through the skin and subcutaneous fat, getting down to the external oblique aponeurosis. I go through the external oblique in the direction of its fibers, doing so by blunt dissection. Please notice I do not do much cutting in this operation. The internal oblique and the transversalis muscles are split in the same way. Next comes the transversalis fascia. After operating in this manner these muscles fall together and so prevent any hernia occurring; any attempts at vomiting only tend to close the openings, the more completely lessening, of course, the danger of hernia. Now I am down upon the peritoneum, which I will open. I next pass a needle armed with a ligature through transversalis fascia and peritoneum; this acts as a guy-line; when we are ready to close the wound my assistant, making strong traction on the guy-line, pulls the retracted margins of the divided transversalis and internal oblique up into sight so easily that they can be sutured with perfect accuracy. This needle that I am passing is armed with catgut. Please remember that all the structures have been split by blunt dissection, not cut. The adhesions that bind the appendix to the cæcum I am separating. All the work I am doing is done simply by the sense of touch. If you work by the sense of sight you will need an incision five or six inches in length. By means of the sense of touch no difficulty is experienced in separating adhesions. Here is the appendix and the cæcum is of the infantile type. The adhesions kept the appendix close against the cæcum. I will first ligate the meso-appendix, and then the appendix. The name meso-appendix I think is more euphonious than meso-appendix, so I use it. I will next scarify the peritoneum. I make a purse-string suture around the base of the appendix, then cut off the appendix and bury the stump. This is done by picking it up with a pair of forceps and burying the end. I next take up the guy-line and hand it to my assistant, who makes traction upon it, thus enabling me to get to the deeper structures. These structures I leave just as I found them. This patient should be out of bed in ten days.

Antidote for the Poison of Snakes and Spiders.

—Kent (*Charlotte Med. Journ.*, Nov., 1899) has convinced himself that one of the club-mosses—*Salaginella apus*—is a perfect antidote for the poison of snakes and spiders. This plant is familiarly called "Snake-Moss," and its virtues were known to the Indians of Virginia. About $\frac{1}{2}$ dram of the moss is macerated thoroughly with 1 ounce of sweet milk. The milk containing small fragments of the moss is then drank by the patient, while the balance is bound upon the wound. The writer cites a number of cases of successful use of this remedy, of which the following is a good example:

James T., age eleven years, was bitten over his right instep by a large copperhead moccasin. One hour after the bite he was suffering much pain, and the foot was swollen to twice its natural size. Moss was at once given with milk, with almost immediate relief of pain. Next morning the swelling was all gone, and the boy was at play, with only a scratch of the bite to remind him of his encounter with the snake.

TRANSLATIONS, ETC.

RETROSPECTIVE THERAPEUTICS.

By Alfred K. Hills, M.D., Fellow of the Academy of Medicine of New York, Etc.

Unguentum Crede in Pelvic Exudate.—At the meeting of the Brooklyn Gynecological Society, June 2, 1899, Dr. John O. Polak said: I have recently been using Unguentum Crede in several cases of pelvic exudate with the most happy results. It is surprising how it reduced the temperature and diminished the exudate. In one of the cases the exudate reached to the umbilicus, and the temperature was 102° to 103° F. There did not seem to be much toxemia present, and the case was one of those in which we usually prescribe rest in bed and laxatives. In two post-operative cases in which there was a temperature of 100° to 101° F. even after drainage was established, the ointment seemed to have a good effect upon the general condition of the patient in addition to controlling the temperature and reducing the size of the exudate. It is extremely good in cellulitis, and I believe that one man, a Dr. Jones of New York, has had the courage to use it in a case of puerperal sepsis with no other treatment. I am so well satisfied with the results obtained from the use of this ointment that I wish to call your attention to it in this preliminary report of my case.

The following on "Local Treatment of Erysipelas" is quoted from Prof. Roswell Park, of Buffalo:

"Of all the numerous applications which I have ever tried, I have found but one thing which has given the universal satisfaction afforded by the following prescription or something equivalent to it. Resorcin (or naphthalin), 5; ichthyol, 5; mercurial ointment, 40; lanolin, 50. The proportions of these ingredients may be varied, and I often increase the amount of ichthyol, especially when the skin to which it is to be applied is not too tender. The affected parts are anointed with this, and then covered with oiled silk or some impermeable material, simply to prevent its absorption by the dressings; the parts are then enveloped in a light dressing and bandaged. Whenever I have to deal with local evidences of septic infection, I use an ointment essentially the same as this, and have learned to count on it with more reliance than anything that I have ever resorted to. This one better thing hinted at above is Crede's silver ointment, which is to be used as described above, and has been already alluded to in the treatment of septicæmia. As the disease becomes mitigated, the ointment may, if desirable, be reduced with simple lard, and may be discontinued when local signs have disappeared. Absorption of any of these preparations may be hastened by a series of scratches over the affected area with the sharp point of a knife, not deep enough to draw blood, but deep enough to better expose the absorbent vessels of the skin."

Value of Hypnotism in Parturition.—Says Berillon—quoted by Dr. Paul Joire (*Bull. Soc. Cent. de Méd.*, October, 1898)—"Though the principles of hypnotism are apparently simple, we ought no more to think of improvising a physician hypnotizer than of improvising a physician oculist." He would have it a specialty. Among cases where good results are produced, none are more satisfactory than cases of labor. The age, the sex, the nervous state of the patient are all points in favor of an

easy production of the hypnotic condition. Even before labor, it is of advantage in the treatment of the following symptoms: Nausea, vomiting, perverted appetite, neuralgias. The two forms of hypnosis employed are somnambulism and lethargy. Lethargy is a profound state of somnambulism. Somnambulism is often of more value than lethargy, as patients in it are susceptible to suggestion. Employed in labor, it causes the pain of the uterine contractions to disappear without interfering with their efficiency.

Osmic Acid in Neuralgia.—Dr. William H. Bennett, in the *Lancet*, Nov. 4, 1899, reports the treatment of some severe forms of neuralgia by the injection of osmic acid. The cure was immediate and permanent in every case. The technique of the method is very simple. The nerve, having been exposed by as small an incision as possible, which in the case of the supro-orbital, infra-orbital, or mental branches, need rarely exceed $\frac{1}{2}$ inch, is hooked up for purposes of fixation. The solution of osmic acid (1.5 per cent.) freshly prepared, is injected by means of a sterilized hypodermic syringe, the needle of which is passed along in the substance of the nerve as far as it can be made to go. The total amount injected should be from 5 to 10 minims, and it should be introduced in 2 or 3 separate injections in order that the whole nerve may be as much as possible soaked in the solution. During the injections a pledget of sterilized gauze should be firmly held around the needle at the orifice of the wound in order to prevent the escape of fluid. The amount of the solution really taken up in the nerve must of course be very small, and the retention in the operation wound of what regurgitates from the nerve probably aids the treatment by its effect upon the nerve-ends exposed on the cut surfaces. The soft tissues are immediately blackened, and the blood which escapes is ink-like.

If the results of this method of relieving the pain in certain nerve conditions turn out to be so satisfactory as seems likely, the scope of the method may be extended, more particularly in the treatment of the definite nerve pains which follow in so many cases of recurrent cancer of the breast and other parts. It may, also, be applicable to neuralgia of mixed nerves, e.g., the sciatic, but at present there is no information as to the effect upon the motor elements. It is probable that paralysis would result, in which case, of course, its use could hardly be justifiable under ordinary circumstances. But this is a point which can easily be cleared up. The treatment is the most promising with which the writer is acquainted. It possesses at least this merit, that should recurrence happen the repetition of the injections is so simple that it may be undertaken without hesitation.

Ichthyol in Measles.—Dr. Stizover (*Memorabilia*, No. 1, 1899) employs, and, he reports, with great success, a salve made up of ichthyol, thirty parts, and axungia, ninety. This is rubbed on twice a day, in the morning and in the evening. If the treatment is begun before the appearance of the eruption on the surface of the body, but when it is detected already on the buccal mucous membrane, the course of the disease may be completely interrupted; the eruption does not come out, fever is absent and the child gets well rapidly. But even if applied at a time when the skin is already covered with the eruption, then, after one or two applications, the temperature falls and the eruption pales and finally disappears altogether. In the course of four or five days the patient is entirely cured. To rub off the salve the child is given a warm bath.

RETROSPECTIVE DIETETICS.

Cottonseed Oil as Food.—The *Lancet* of July 29, 1899, editorially considers this somewhat important subject as follows:

"Because cottonseed oil has been employed by unscrupulous persons as an adulterant of olive oil and butter, a certain amount of prejudice has been entertained against it as an element in dietetics. The ease, however, with which cottonseed oil saponifies would indicate it to be a useful food and an excellent substitute for more familiar fats. Indeed, there is some evidence in favor of the view that properly refined cottonseed oil is as wholesome as butter. However wholesome and nutritious, though, cottonseed oil may be, it should be sold under its right name and should not be allowed to masquerade under titles to which it has not the slightest claim. In a paper by the late Dr. Campbell Morfit it is stated that the exceptional capacity for assimilation which cottonseed oil possesses when chemically pure can be demonstrated by five years' experience of its use in severe chronic dyspepsia. Where the diet was strictly limited and the stomach was intolerant of any other fat, even of butter, the daily consumption of a small quantity of cottonseed oil produced results unattainable, it is said, from any other food. Further, cottonseed oil is much less nauseating than cod-liver oil, while it is free from laxative tendencies, so that it may be exhibited, as in the case of tuberculous patients, where excessive waste has to be combated without overtaxing the digestive functions. It has been suggested as a suitable food for growing children and as a lubricant in massage treatment. It would appear, however, that cottonseed oil which has been refined by drastic bleaching agents loses many of its useful qualities. On the other hand, by employing such refining agents as will act upon the impurities solely, leaving the oil itself chemically untouched, a bright golden oil is obtained possessing a sweet, nutty flavor and evincing no liability to become rancid. Such an oil is well adapted for edible and culinary purposes, and since the output of the oil in many parts of the world is enormous, it is surprising that the claims of cottonseed oil as food have not previously been more widely made known."

The Diet of the Neurotic.—Dietetic therapeutics of the neurotic is discussed by Henry C. Eyman in the *Journ. of the Amer. Med. Assoc.* of August 26, 1899, who emphasizes the need and importance of the tissue-builders.

To certain patients a meat diet is most valuable, while others do better on milk, fish, and the farinaceous foods. Hypophosphites and pepsin with oil may encourage the taking on of fat. In some forms of neurosis, with dry skin, irritability, and motor restlessness, a meat diet and hot water are particularly indicated.

The melancholic dyspeptic, of foul breath, coated tongue, and constipated bowels, is greatly to be helped by proper diet—e.g., before getting out of bed, a cup of hot water with a dash of brandy; a breakfast of meat and eggs; lunch at 11 and 2, of beef tea or cocoa, crackers, milk and fowl; dinner at 6, consisting of broiled fish, roast beef, green peas, and asparagus and toast; at bedtime a light meal with a small amount of some malt liquor. Milk or egg-nogg after midnight is often of great service to the restless, depressed patient.

Fresh air and exercise are of course most important adjuncts to dietary therapeutics, but fatty foods, milk, ham, cod-liver oil, beefsteak, fish, fowl, farinaceous foods, eggs, and malt preparations, are all of advantage, and ale and porter oftentimes work wonders with melancholics. To the gouty—those of uric acid tendencies—farinaceous foods and nuts will prove of especial service.

The Later Treatment of Diabetes.—Undoubtedly, says the editor of *Medicine*, the older writers believed that if all carbohydrates could be eliminated from the diet and kept out of it for a sufficient length of time the patient would recover. The present conception of the disease regards all this as an error and looks upon all confirmed cases of the disorder as largely incurable, but which, with medical attention will live for years, leading fairly useful and comfortable lives. The main thing to be avoided by a diabetic is excessive consumption of food, by which the organs of digestion are overtaxed and their function disturbed. The diet should be a mixed one, in which the carbohydrates are considerably reduced, but from which they are not altogether eliminated. The quantity of food taken should be just sufficient to meet the needs of the patient. It should be apportioned carefully for each meal, and under no circumstances should the patient be allowed to overindulge. Careful attention should be directed to the alimentary tract, and fermentation or the results of constipation should be carefully eliminated. In all severe cases, in which there is alimentary disturbance, lavage of both stomach and bowels should be employed.

Infant Foods and Scurvy Rickets.—W. B. Ransom, M.D., in the *Lancet*, Nov. 4, 1899, warns that the exclusive use of even the best artificial foods is attended with serious danger, as he shows by the cases of two children, both of whom were fed from birth on Allen and Hanbury's foods, stated to be made from "fresh cow's milk so modified as to present all the constituents of human milk in their true relative proportions." Both patients were the children of well-to-do parents, living under excellent sanitary conditions. The first was an infant, aged 9 months, who until three weeks previously had been fed solely on these foods. The child had six teeth, and had apparently thrived until nine weeks previously. Then the right ankle began to swell, the child grew pale and had profuse night sweats. The right leg from the ankle to the knee presented an appearance which suggested to one medical man sarcoma of the tibia. There was also a bloody extravasation in the left eyelid, which was swollen and purple. The gums were spongy. The child was extremely anemic and sallow. The diagnosis of scurvy rickets was made and a diet of fresh unboiled milk, raw meat juice, a little mashed potato, and some lime juice was ordered, and iron was given. Immediate and rapid improvement ensued, and the child has remained healthy.

The second child, aged 12 weeks, had been fed from birth on food No. 1. Up to the age of 8 or 9 weeks she had flourished, gaining half a pound a week. Then she began to lose color and flesh, and when seen she was intensely anemic, of a lemon-yellow color, thin, and in a state of utter exhaustion. There were no hemorrhages. The food was stopped, and a mixture of milk, cream, water, and milk-sugar, directed to be surrounded by boiling water for five minutes only, was given as the chief food; but an ounce of unboiled milk, suitably diluted, and half an ounce of raw meat juice were also ordered daily. The child is now doing well.

It is clear that chemical suitability, digestibility, and freedom from microbes are not the only essentials of a food, but that there is something in fresh food—the "antiscorbutic" quality—which infants and adults alike need. The exclusive use of "artificial" foods and of milk sterilized by prolonged boiling is rather to be deprecated by the medical profession than to be preached—as is the fashion—to a public already inclined to run wild over the microbe scare. Pasteurization of milk or

(what is practically much easier in the ordinary household) heating the milk in a vessel surrounded by boiling water for ten minutes is probably sufficient to stop the danger of bacterial infection except in special circumstances, such as during epidemic summer diarrhea, or typhoid fever or cholera epidemics.

It is much to be desired that firms such as Messrs. Allen and Hanbury, who have devoted so much care to the preparation of "infants' foods," should add to their value and diminish their danger by issuing with their tins a caution as to the need for the addition of some fresh food to the dietary.

Electric Pemmican.—The desiccation of meat at high temperature is an excellent mode of preservation, for it kills all ferments, which require a certain quantity of humidity. "Here," says *Cosmos*, as translated for the *Literary Digest*, "practice has preceded theory, as in so many other cases. The primitive races that inhabit hot countries have long used the heat of the sun for the preservation of meat. After having removed the fat, they cut it into strips and dry it on sticks. Meat thus prepared shrinks in volume to twenty-six per cent., and has the look and taste of india-rubber. With habit and appetite, one can use it for food. Meat thus prepared has been given the following names: 'Pemmican,' in North America; 'carne seca' or 'tasajo,' in South America; 'biltong,' in South Africa; 'kadyd' or 'kilia,' among the Arabs of the Sahara. An American chemist has discovered that the electric light is capable of producing pemmican, as well as the sun itself. The meat thoroughly deprived of fat is exposed to intense electric radiation, and at the same time to a current of hot air. The meat dries and shrinks to thirty per cent. of its original volume. But, what is most interesting, it becomes easily pulverizable, instead of remaining elastic. It can be reduced to fine powder, and thus two days' provision can be compressed into a single cake of electric pemmican."

Diet in Fever.—Von Leyden (*Therapie der Gegenwart*, Heft 1, 1899) shows that, from the point of view of diet, the important changes in fever are the rise of temperature with loss of appetite and increase of thirst, dryness of the mouth and diminution of gastric secretion and of gastric motility, weakening of the heart, disturbance of the functions of the kidneys, extraordinary increase of nitrogen excretion by the urine, while the excretion of carbonic acid is but little altered. In feeding a fever patient, we must take care that none of these symptoms are made worse, but that they may, if possible, be favorably influenced. Nourishment should be fluid, freshly prepared, given in small amounts at a time, and carefully cooled. Plenty of fluid should be given, so that the poisons which have to be excreted may leave the body in as dilute a form as possible. * * * Milk is the ideal nourishment in fever, and if a fever patient can take milk in large quantities, that in itself indicates a good prognosis. Small quantities should be taken at first, four or five wineglassfuls in the day, with water, lemonade, soups and bouillon between, and in the morning coffee or tea. The whole amount of fluid taken in twenty-four hours should not be less than three liters (5½ pints). After two or three days the amount of milk should be increased to a wineglassful every two hours, and gradually further increased up to two liters, in exceptional cases to three or four liters, in the day. If it is well borne, cream or milk-sugar may be added to make it more nourishing.

Patients who take milk well may be kept for weeks at a time on this regimen, and get over the fever perfectly.

If milk alone is not well taken, it may be made more palatable to the patient by adding to it tea, coffee, chocolate, brandy, decoction of peppermint, caraway or valerian, or by adding oatmeal or rice-flour. If these additions do not suffice, one must turn to soups made with flour and strengthened by such nutrient substances as peptone, somatose, nutrose, tropon, or yolk of egg, between times giving bouillon, tea, coffee or fruit-juices. Solid food, such as scraped meat or mashed potatoes, should only be given exceptionally, and in very small portions. Solid food should not, as a rule, be given until three or four days after the temperature has fallen, and then only as the more tender kinds of meat. It must not be forgotten that it is in long-continued fevers that diet takes the most important place, while in the shorter fevers, such as pneumonia, the giving of fluid as fluid, and of alcohol, is the principal thing.

Strict Milk-Diet in Diabetes Mellitus.—In a report by Winternitz and Strasser (*Centr. f. Inn. Med.*, Nov. 11, 1899; *Phila. Med. Jour.*), the use of an absolute milk-diet is said to have reduced the sugar strikingly, or to have caused it to disappear from the urine within forty-eight hours. Both in young subjects and in older ones in the forms of diabetes, due to obesity, trauma or shock, it produced this result in cases that had not responded to other treatment. If albuminuria was present the sugar vanished, and, usually, the albuminuria soon after became much less, and in certain instances disappeared entirely. The acetone, if present, increased oftentimes, and if it had not previously been present, appeared during the milk diet. In many cases the use of mixed diet caused a reappearance of the sugar after the milk-cure, but reinstitution of milk-diet caused the sugar to vanish again. Some diabetics can be cured entirely by milk-diet, and can afterward take large quantities of carbohydrates without any disturbance. One case remained well during five months' observation. The first effect upon body-weight is a loss, which is followed by an increase. The ability to assimilate carbohydrates of other kinds is no criterion of the ability to assimilate milk-sugar.

The Popularity of Horseflesh as a Food.—France is not the only country where horseflesh is popular, says the *Sanitary Record*. In Denmark it is preferred by many people to beef. Hippic butchers at Copenhagen have been in existence since 1830, and in Belgium for twenty years. In Germany and Austria business is brisk in horse meat preparations, and it is becoming more so every year. England is still reluctant about accepting the new aliment, and classes that kind of food alongside of snails and frogs. The first hippic butchers in Paris were established only in 1866. Ever since that special trade is legally carried on, and is considerably increasing, as demonstrated by municipal statistics—so much so that to-day over five thousand tons of horseflesh are consumed annually in Paris, sold by sixty licensed horse butchers, who receive supplies from two special hippic slaughter-houses, both outside the city proper. In both these abattoirs the sanitation is faultless, while the inspection of the meat itself is of the severest and most satisfactory nature, the same as for oxen, sheep and pigs.

Etiology of Chronic Bright's Disease.—Nicholls (*Can. Journ. of Med. and Surg.*, Dec., 1899) concludes an inquiry into this subject as follows: (1) That bacteria are constantly passing from the intestine into the liver, and thence into the general blood-stream, even in a normal animal. (2) The different forms of Bright's dis-

case are to be regarded as various stages in the same general process, there being a unity pervading the whole pathological picture. (3) All forms of nephritis are due in the immense majority of cases to infective agents; the acute, to the usual specific germs of the primary disease, and the chronic, as a general rule, to the bacillus coli, though other germs may sometimes be concerned. (4) Acute interstitial inflammation and subsequent connective tissue hyperplasia are the keynote of the process; this is, however, preceded by parenchymatous degeneration. (5) The point of invasion by the bacillus coli is the gastrointestinal tract; for other germs it may be various. (6) The liver and mesenteric glands are the first barriers of defence; and the endothelial cells of the capillaries and secreting tubules of the kidney have the power of ingesting bacteria, this being an attempt at inhibition and elimination.

Surgical Hints.—(*Inter. Journ. of Surg.*) (1) Never allow a room to be swept or dusted just before an operation. Cover everything with wet sheets if necessary, so as to prevent the raising of dust. (2) When you have blood on your hands first wash them in pure water; soapy water does not dissolve blood readily. Clear water and a nail brush should come first, soap next. (3) In all amputations, remember that the loose muscles retract more than those attached to the bone. It is better to sever the loose muscles first, and the attached ones next, so that the ends may be of equal lengths. (4) If you believe that the operation has been a clean one, leave the wound alone, if not an infected one. The best surgeons usually apply but one dressing—the first. When this is removed the stitches are taken out and the wound only needs a clean covering for a few days. (5) Before giving ether to patients suffering from catarrh of the nasal passages, wash these out with an alkaline solution. This will, by removing the secretions, facilitate breathing, and hence increase the facility with which anesthesia can be induced. (6) Scalp wounds should always be stitched if of any size. But always remove the stitches early, otherwise they may act as setons and lead to supuration, which, if it reaches the loose layer under the aponeurosis, is likely to be serious. These wounds only gape if the scalp muscle or its aponeurosis is incised; very few stitches are needed.

The Role of the Head-Pillow in Dermatology.—Unna (*Monatsh. fuer prakt. Derm.*, Vol. XXIX, No. 10; *Intern. Med. Mag.*) calls attention to the part played by the pillow in the aggravation of certain diseases of the skin. Some years ago the author was struck with the observation that many cases of impetigo contagiosa of the face in adults were prone to spread much more extensively upon one aspect of the face than the other. It was discovered that the side of the face exhibiting the greater extension usually corresponded with the side of the face upon which the patient lay. It is easily understood how an autoinoculable affection like impetigo could be aggravated by the contact of the part with linen previously stained with purulent discharge. This mode of inoculation does not obtain to the same extent in children, because they sleep, as a rule, upon their backs or toss about without having a constant sleeping position. Unna has, in addition, noted autoinoculation from the use of the pillow in crusted eczema, seborrheic eczema and in sycosis. The remedy indicated is the absolute avoidance of contact of the affected area with the pillow. The simplest and surest method of accomplishing this is to apply over the diseased skin the salve or paste to be employed and over this absorbent cotton and a bandage.

GLEANINGS.

Electricity in Sciatica.—Dr. James Taylor (*Clin. Journal*, Oct. 11; *N. Y. Med. Journ.*, Nov. 11, 1899) reminds us of the well-known but too much ignored fact that electricity is very useful in sciatica. It is useful, first, in relieving the pain, which is often severe, and in the second place it is useful in stimulating muscles which have become wasted, and thus aiding their growth. In sciatica itself the best current to use is, he says, the constant current, and it is best applied by getting the patient to lie prone, with one of the flat conductors over the sciatic area, the other pole being stroked over the distribution of the nerve. He has known very great benefit, and, indeed, practically complete relief, afforded in sciatica from comparatively few applications of the battery.

Chestnut-Leaves in Whooping-Cough.—According to F. A. Remly (*Texas Med. Journ.*, September, 1899), in the treatment of whooping-cough a reliable fluid extract of chestnut leaves, or a tea made from the fresh leaves will prove of great value. From twenty to sixty drops of the fluid extract of chestnut-leaves should be given four or five times a day; the patient being allowed nothing to drink for a half-hour after taking this, or teaspoonful doses of the decoction of the leaves may be used. These doses are for children one year old or older.

Guaiaicol in the Treatment of Lupus.—Funch (*Monatsh. F. Prakt. Dermatologie*, 1899, No. 5) reports two cases of disseminated lupus vulgaris treated with applications of Guaiaicol. Both were in children three years old, in whom the lupus had made its appearance immediately after an attack of measles. In the first case two months of penciling with pure Guaiaicol accomplished the entire disappearance of the lupous nodules, which were replaced by white scars. In the second case three months of the treatment were required. The applications were made twice a day. The author holds that Guaiaicol is indicated only in disseminated lupus, and that in other varieties it does no notable good. The treatment is painless and extremely simple.

Craving for Stimulants.—That the blood normally contains stimulants, that these stimulants exercise a favoring influence on function, and conduce to, and may even be a necessary factor in the production of, the feeling of well-being, explains the widespread liking in man and beast for stimulating substances, says Harry Campbell (*Lancet*, October 21, 1899). This liking, amounting often to a craving, is the expression of a great physiological principle. When there is perfect health, when the blood is well provided with its proper stimulants and not overcharged with depressants, there is no craving for extraneous stimulants, as alcohol, tea, or coffee. But when it is defective with the one and surcharged with the other, then is left the desire for the glass of wine or the cup of tea. In order to obviate this desire we should seek to keep the body at the highest level of health. The more perfect the health, the more perfect will be the composition of the blood, both in respect to physiological stimulants and deleterious toxins. A blood properly constituted in these and other respects will exercise a gentle stimulant action on the nervous system and induce a condition of mild physiological intoxication, which expresses itself in a feeling of well-being and happiness, a condition which cannot be bettered.

MISCELLANY.

—Cherrapunji, in Assam, northwest of Calcutta, has the reputation of being the wettest place on the earth, the average annual rainfall being 498.15 inches, while it has the record of one month in which 147.17 inches fell. This year it seems bound to beat all previous records, 267.84 inches of rain having fallen between January and the middle of June, five months and a half, while 73.79 inches, over six feet of water, fell in a single week.

—The Medical Monograph says if there is any reason why water should be withheld from a child afflicted with intestinal disease, it has not been satisfactorily demonstrated. One of these children, with a hot skin and parched mouth, restless and fretful, is as fair an indication of tissue drouth as could be desired. Give it water, not a teaspoonful but a tumbler full and you will frequently see a wonderful change. Saturate it with water.

—Presbyiatrics is a name proposed for a new specialty in medicine devoted to the study of the diseases and conditions affecting the aged. It is claimed that we have now a special branch known as pediatrics, and there is no reason why, if the diseases of the young are specially studied, the conditions affecting old age should be overlooked. It is claimed that hygiene of old age is relatively of greater importance than that of the early years of life.

—The American Journal of Obstetrics quotes Hunter Robb, in the *Annals of Gynecology and Pediatrics*, as reporting an abdominal section under cocaine anesthesia for retroverted adherent uterus in a case with marked cardiac symptoms and goitre. The adhesions were separated with but little discomfort apparently to the patient. It was noted that even slight traction on the uterus produced considerable pain. The patient made an uninterrupted recovery.

—We learn from the *British Medical Journal* that the proposal to establish an Anglo-American Nursing Home in Rome is likely to be carried out; the need for such an institution has been felt by many British and American practitioners in Rome. A sum of 1,000 pounds sterling has been subscribed for a building fund, and negotiations are on foot for the purchase of a house. The home when established will receive cases of illness of any kind, including typhoid fever.

—A special dispatch to the *Philadelphia Telegraph* states that the Bubonic plague in Paraguay baffles the attempts of the medical men to stop its spread. Dr. Castillo of the Hygienic Department, and Drs. Voges and Delfino have diagnosed the diseases at Asuncion as the plague. At Paraguay, in fifty-four cases reported, thirty-two deaths have occurred. "Curiously enough, a systematized campaign is being carried on from Paraguay to suppress the facts in connection with the epidemic."

—The London Hospital says: "It will be good news to many consumptive invalids to learn that a large sanitarium for consumptives will be opened, probably in November, at Helonau, in Egypt. The building will be open to the desert on all sides, and the roof will be utilized as a winter garden. The window casements are to be constructed for the unrestricted admission of air. Separate rooms with bath-rooms are to be provided, and about seventy patients will be accommodated."

—The *Charlotte Medical Journal* tells the following story of "The Greatest Neurologist of the Day," whose home, it is added, is in Philadelphia. A very wealthy bedridden case, of two years' standing, was brought to his private hospital for treatment. The case was one of false neurasthenia. On her absolute refusal to leave her bed under any circumstances, the eminent scientist threw a lighted newspaper under her bed and told her to burn up and be d—d. She left the hospital cured in six weeks.

—Putrefaction is probably not death but the contrary—the life that follows death, or a sort of resurrection.—*Medical Age*. The laws of conservation and of conversion apply to vital as well as to inorganic forces. Fermentation or putrefaction is a vital process, reciprocally generated by and generating inconceivable millions of impalpable organisms, which charge the atmosphere and are everywhere at work, transmuting dead organisms into elementary living ones—and why not passing on the vital activity into higher forms?

—Professor Landouzy (*Jrnl. A. M. A.*) formally states that the most marked predisposition to tuberculous infection occurs in persons with white, delicate, transparent skin, marbled with veins, freckled usually, the hair on the head or body, or both, auburn or red, iris blue, flesh soft, sweating easily induced, graceful outlines. This type is called Venetian in Europe, but not from any special prevalence of tuberculosis at Venice, which has rather a low death-rate from this disease, but probably on account of Titian's women. All, or very nearly all, of this type are tuberculous—in Paris, at least, he asserts. Next in order come the scrofulo-lymphatic, persons who have been tracheotomized or have undergone other traumata, etc., and especially persons who have had smallpox.

—At the annual meeting, October 2, of the Detroit Medical and Sanitary Association, the president, Dr. Charles Douglas, in his address, "Teaching the Principles of Nutrition in the Public Schools," said that proper nutrition is the foundation of human development and success. "As the horseman knows that the blue grass of Kentucky grows the best bone, nerve and muscle in his young animals; as the farmer knows that corn is the best fattening agent for his stock; as the milkman knows that certain kinds of food will give copious returns in milk, and certain other foods produce fat and muscle only; as the florist knows that clay soil grows the best roses, and leaves make the best manure, so must we teach our young the value of individual food in supporting particular parts of the body."

ORIGINAL ARTICLES.

PHYSICIANS AS PSYCHOLOGISTS AND THE CIRCULATION IN THE NERVOUS SYSTEM.

BY HERMAN GASSER, M.D., PLATTEVILLE, WIS.

WHILE physicians as a rule are not specially trained students of psychology, yet with their knowledge of anatomy and physiology, reinforced by their special study of them in disease with its disturbed sensations the result of the changed anatomical structure, and what we call pathology, supported, too, by the general conclusion that the one is always the handmaid of the other, they are at least practical psychologists. To them the disturbance of feeling and consciousness with its painful sensations and the change or departure of the "normal" or healthy tissues of the body are the two sides, but related and interdependent processes of the same thing; its pathological anatomy with its pathological physiology as interpreted in our states of consciousness.

In this way they have unconsciously and intuitively conceived them as natural and related parts of the same universal system. This is why they are practical psychologists and differ from the trained psychologists only in this: that while physicians interpret conscious sensations only as they are related to the pathological changes, the psychologist studies the sensations in their relation to consciousness.

To be a good physician is equal to the statement that he is also a good practical psychologist, for it is the office of the physician, by his analysis of the sensations, in health as well as disease, that he formulate in his "mind's eye" the physical processes and changes in the body with all their variations that gave them existence.

It is a very familiar, nevertheless a most remarkable observation, that when we have a clot, no matter from what cause, upon the cortical cells of the brain the function of which is distinctively motor, there is a motor paralysis of the parts of the body they control. And is it not even more wonderful that the sensory side should maintain its almost complete integrity? Remove the clot without destroying the tissues around it and you at once restore the normal function and "cure" the paralysis.

So long as the clot pressed upon the cortical cells all motor power to the related organs below were as completely shut off and "paralyzed" as the blood supply in the lower limb would be if you pressed upon the femoral artery. Relieve each of pressure and there is at once a normal restoration of function.

No one doubts that the circulation of the blood is continuous, and while pressure on an artery may stop it for a while in the organ which it supplies, release of pressure at once restores it. If by pressure upon a nerve or ganglion we cause cessation of function or "paralysis" and as soon as we remove that pressure the function is again resumed and the "paralysis cured," must we not also assume that the circulation in the nervous system has as positive and demonstrable an existence as that of the blood? Indeed is not all clinical, physiological and psychological evidence with which we are familiar corroborative? We have been so accustomed to look at this problem from the established yet one-sided and incomplete point of view that the simplest lessons could not be intelligently observed.

A transverse injury, or better still, a local pressure upon the spinal cord causes paralysis of sensation and motion of all the parts supplied below, while above we

have sensation and motion in our consciousness. As soon as pressure is relieved there is a full restoration of function. So long as the pressure continues it is absent. Is this not again conclusive evidence of the continuous circulation in the nervous system? Have we any more substantial evidence for any physical phenomenon?

To me the circulation in the nervous system has not anywhere near the wonder and curiosity as the fact that mankind universally has reasoned itself away from it. This, no doubt, was due to the belief that we had no clear and all-comprehensive conception of life until Herbert Spencer demonstrated it to be "a continuous adjustment of inner relations with outer relations." This definition alone demonstrates the circulation in the nervous system. But what is even more remarkable is, that even he positively and distinctly has endeavored to demonstrate that it could not be "continuous" and thereby negating his formula of life that is now generally accepted.

This greatest intellectual pathfinder and most constructive genius of the nineteenth century, this pioneer in the world of thought and greatest philosopher of the age, with his immense and incomparable strides in advance, was still influenced to such an extent with the established methods of thought that he could not quite surmount this difficulty. It is, nevertheless, especially to his genius in common with the labors of others that its formulation became possible.

Then how was it that this seemingly simple phenomenon of the circulation in the nervous system has eluded their observation? This is the great problem. In it is the whole history of the world of thought. To adequately and systematically portray it is much beyond my ability. To briefly generalize it as it appears to me may not be improper. To do this understandingly it will conduce to clearness if we first make a preliminary cast of the world of thought as it has been generally conceived.

Unconsciously and intuitively we have conceived the world as material on one side and as conscious on the other; and although related yet distinct. This is the best guarantee of their validity, and which is not here questioned. What we wish to take into general review is our consciousness that we may have a clearer and more defined conception of its limitations. To do this we must again recast the general proposition in its relation to consciousness alone.

Unconsciously and intuitively we have come to the belief that consciousness has its ebbs and flows, its periods of existence, and non-existence. Also that our sensations of sight and hearing, touch and taste, in common with all the other sensations have their "ebbs and flows," and as these special sensations in our experience are part and parcel of the same system and order we have included them as parts of it. And as they have "unconsciously and intuitively" been organized in our thoughts, their stability and validity are thus again sustained by this highest form of evidence: the enduring, organized constructive forces of the world of phenomena and consciousness.

It is these ever-present and established experiences of the "ebbs and flows" of our sensations and consciousness that have naturally caused us to drift into the belief that the nervous system has its periods of excitement and quiescence, its "ebbs and flows" that caused us to formulate the belief that there could be no circulation in the nervous system, for we know it only in its conscious excitement, and had no existence during its unconsciousness.

This demonstrates that there is a stability in our order

of thinking as permanent and enduring as there is in the world of physical phenomena, and, although it may not be all of the truth, yet it is in harmony with the whole of the truth. While by our incomplete observations we have established orderly and systematic relation between them they nevertheless are incomplete. But any enlargement of the general principles of the relations between them cannot solve the mystery of life. General principles may give us a limited conception of how they are related and orderly, but never why they are, and this is the mystery that every increase in our knowledge can only make more wonderful and profound.

So far, at least, we have violated no established system of observation and experience believed in by man in general, or by any system of religion, science or philosophy. But it is here we begin to tread upon dangerous ice by asking: What relations have our special sensations with our consciousness? Are not our sensations the most real states of our conscious life? And if the theory of the circulation in the nervous system is true, is it not also a fact that our sensations are nothing but blind physical phenomena? This has been, and still is, the problem of problems. It is the interpretation of the relations between them out of which have arisen the various schools of religion and philosophy, and they all had some natural, related and intelligent basis for their existence.

With these general conceptions and the questions asked, let us take into review the general proposition in the light of the theory of the circulation in the nervous system. If this theory is true we are at once forced to admit that our sensations must necessarily be not only physical, but blindly material, and hence can have none of the attributes of our conscious life; for our conscious life is not "blind" but selective and retrospective.

It is here the question, "Are not our sensations the most real states of our conscious life?" comes up for solution. If the sensation according to our theory is nothing but a "blind" organized physical phenomenon, and if, also, it is "the most real state in our conscious life," how are we to blend them into a common and related unity with their characteristic distinctions?

We must admit that our conscious life is woven out of the sensations, are related parts of the universe of phenomena; still consciousness is distinct and has nothing in common with them. No matter how brilliant or all-comprehensive a special sensation may be for a moment in our conscious life, our conscious life is not the "special sensation" that gave it existence. While there is a relation between the "special sensation" and our consciousness, we know this "special sensation" only in its relation with the multitudinous other sensations of our organism woven into a coherent and related unity we call consciousness. This is why a single sensation, no matter how active and all-absorbing, is but a blind physical phenomenon until it is adjusted and equilibrated with all the other sensations and experiences into a related unity we call consciousness, and is why they are distinct and characteristic but related phenomena.

Consciousness is not sensation. It is the special epiphenomenon woven out of the adjustment and equilibration of the sensations into a coherent unity, and while characteristic and distinct, also forces us to admit that it, too, is a form of force, for by no logic can we translate the blind material forces of the world into active and energetic immaterial existence. But what is of greater importance is the fact that in our consciousness we translate the blind forces of the world into a coherent and retrospective system in which we cannot only measure, but direct them with intelligence. This need alarm

no one, for our very conception of God is energy and force directing by intelligent consciousness the blind forces of the world into a reflex image of Himself, and especially typified in the form of conscious man.

But then if our special sensations are but forms of material energy, and our consciousness a form of force both interdependent and related, what then is left us but pure materialism? Every analysis of the world of material phenomena demonstrates it to be a "lawful, orderly and systematic" process, constructive in its tendencies, but blind in form. It was not until consciousness was born, with its distinct and characteristic power of measuring and directing these blind forces within certain limits that "law, order and system" came into existence, and it therefore has no other basis for its existence than our consciousness. This is why our consciousness is the only reality we have of the world of phenomena, and the outside world can only be an ideal conception of it.

The world we know with its material organization and development by its reactions has given rise to our sensations of it. That these reactions in their most simple and complex combinations are blind, although lawful, orderly and constructive, is admitted. But the organized adjustment of these sensations into a coherent and conscious unity that has the distinct attribute of looking back into and measuring them has nothing in common. The one is blind force, the other intelligent and selective responsibility, and while related are distinct.

How do we know that our consciousness is woven out of the sensations? Briefly, we may say, as already stated, that they are integral and related parts of the same order of phenomena. This is the highest form of evidence, for the contrary must first be proven before we can give it serious consideration. But we need not rest here, for the special observations and experiences only confirm this conclusion. The sight of a child run over by the cars at once attains and controls our conscious life for the time; but it is not our visual sensation of it that is our consciousness. As a visual sensation it is only a physical phenomenon, and not until it is adjusted with all the sensations with their organized and stored up experiences, hereditary, past and present, that it becomes an act of consciousness. It is the excessive stimulus of this special physical sensation in its adjustment with all the other sensations into the unity of life we call consciousness that has caused us to believe that this special sensation is a part of it. It is, but no longer as a pure sensation, but rather as a conscious conception of it, the result of the adjustment of all into a conscious unity. And while it controls it for the time we only know it as a physical sensation measured with all the others as given in our consciousness.

Consciousness is that special and characteristic entity woven out of all the sensations into a coherent and related unity. It is not any special sensation. No special sensation, no matter how extreme or active, can rise into the field of consciousness except as a related sensation. Sensations are pure physical phenomena, while consciousness is the measure of these phenomena. It is no longer a blind material force, but a source of power and energy that by its selective and discriminative attributes has assumed the garb of responsibility. This is why our sensations are not consciousness. It is the distinction between them. While related and interdependent, the one is blind force while the other is contemplative, selective and responsible. The sensations are the reactions along the lines of least resistance of the blind but constructive forces of nature with its unerring "law, order and system," in which pleasure and pain and individual endurance play no part; while consciousness

with its "law, order and system," in which pleasure and pain and individual continuity play the supreme and controlling direction. The one is irresponsible, the other responsible. This is the distinction.

This relation between them with its "law, order and system" is so distinct that we cannot by any process of reasoning or experience unite them, for the one is the blind material world, while the other is the contemplative and responsible with its pleasures and pains. While both are constructive, related and interdependent, the one is blind, ideal and irresponsible, while the other is intelligent, real and responsible.

It is out of this dual but related conception of the world, each with its limitations and powers, that we have naturally formulated the belief of an infinite Great Reality, the architect of the universe with its infinite but constructive architectural ideality. As out of the reaction of these forces there has developed our conscious existence of which our bodily and conscious life are but limited and finite expressions, we have formulated the natural trinity of nature composed of the "Great Reality," the "Ideal Reality," and the "Conscious Reality," the son woven from them we call our conscious and bodily expression. The finite reaction out of the infinite with its limitations. The Son of the Father and Mother of the universe of phenomena. The Father as the architect, the Mother as constructive nature, and the Son born as a miniature child, a fac-simile of both, and in which his conscious life is typical of the one and his bodily life of the other, and all blended into one coherent and related unity.

INTESTINAL CATARRH AND INFANT FEEDING.

BY DR. CHAS. WILLIAMS, PHILA., PA.

THE treatment of intestinal catarrh is first purgative, and among the purgatives there is nothing better for this than castor oil. The taste is sometimes taken away by giving it with beer, shaking it up with a small quantity of beer in a bottle. There are some persons to whom beer is quite as disagreeable as castor oil; but every apothecary can furnish you with ways in which the taste may be disguised.

The next in value is calomel. Two grains may be given every hour until six grains are given. Of course this medication is followed by a temporary increase in the symptoms of diarrhoea, but they rapidly disappear. If they do not the subnitrate or salicylate of bismuth may be given at intervals of two hours. These measures failing, acetate of lead, nitrate of silver, sulphate of copper or others may be used; but it is rare that these first are not efficacious. If the breath is fetid an intestinal antiseptic may be given from the beginning of the attack, as thymol, two grains every two or three hours in capsule or gelatin pill. If there is much pain opium may be administered preferably in the form of morphia:

R Morph. Sulph.....	gr. ij
Spt. Chloroform.....	f ʒ ij
Glycerin.....	f ʒ j or ij
Aq. q. s.....	f ʒ iij

A teaspoonful of this may be given every two or three or four hours; or, if you choose, instead of the water a simple elixir from the pharmacopœia may be used; but this is not a disagreeable mixture. If there is much rectal tenesmus relief may be had by suppositories of opium and belladonna, one grain opium and one-half grain extract of belladonna.

Irrigation is often efficacious, and it has been proved

that fluids may find their way through the rectum above the ileo-cæcal valve. Better than using pure water is to use a solution of chloride of sodium, or borax or silver nitrate. If you have used the nasal douche you know how painful pure water is when injected into the passage; and so in the rectum the tolerance will be greatly increased if a small amount of sodium chloride be added.

On recovery of the patient excess in diet must be avoided and a flannel bandage should be worn over the abdomen, especially if it is in a damp climate.

With reference to the treatment of cholera infantum, prophylaxis is of the utmost importance, even when the hygienic surroundings are unfavorable, provided you have the assistance of mother or nurse. The majority of properly fed children will escape the disease.

In regard to the proper method of feeding infants, mother's milk, when of good quality, is undoubtedly the best thing, and the child should be fed on this exclusively up to six months of age. Such a state is the ideal one—the number of cases being comparatively small, on account of numerous circumstances. First, a mother under eighteen years cannot, as a rule, nurse her child without injury to one or the other. The milk is not so nourishing and the mother runs the risk of severe anæmia. When the mother belongs to a phthisical family, or chlorotic or syphilitic, she should not attempt to nurse her child. Or there may be some mechanical hindrance from the state of the nipples. It is still of great importance that the child be fed at regular intervals; and these should be, for the first two months, every two hours, and after that every three hours.

The child's mouth should be cleansed after each feeding with pure cold water to remove particles of milk, which, if swallowed after curdling, might give rise to gastro-intestinal catarrh.

Sometimes the child for some inexplicable reason does not thrive. The only certain criterion of this is its weight, which increases under normal circumstances by arithmetical progression. The scales are the best test of diet. Supposing, then, the fact of the child's not thriving. The diet should be changed and it becomes a question for immediate decision whether it shall have a wet nurse or be brought up by hand. The wet nurse is becoming obsolete; first, on account of the increasing prosperity of the classes from which wet nurses would come, and second, the demands on a wet nurse are more and more exacting, and the results of artificial feeding getting better. These remarks apply especially to conditions in this country. The physician of to-day is far more frequently called upon to decide the proper food than to decide about the qualifications of a wet nurse. If human milk cannot be obtained, that of an animal must come next, and that one which most resembles human milk. The asses' milk is the one which does this, and in Holland, where infants are fed on this, the results are excellent. In this country the only animal whose milk is used is the cow, and this can be altered by adding and subtracting. It contains about three times as much casein as human milk, so that it must first be diluted. When it is diluted to obtain the proper percentage of casein it contains too little fat and cream; and there is less sugar, so that a decided amount of sugar must be added. Then cow's milk is acid, while human milk is alkaline, rendering the addition of some alkali necessary.

Dr. Arthur V. Meiggs, who has carefully studied the subject, recommends the following mixture, both from theoretical and practical reasons. I mention it as a typical mixture, not the only one. It is the result of very careful study on the part of a very careful man: One

quart of good ordinary milk is placed in a high vessel and allowed to stand in a cool place about three hours. One pint is slowly decanted away from this—not agitating the milk—obtaining the upper layer with the fat and cream, and leaving the poorer layer behind. It is not very rich, of course. Now, when the child is to be fed you take of this milk three tablespoonfuls then add two tablespoons of lime water, and of sugar water three tablespoons, making in all eight tablespoons. The sugar water is made by putting eighteen drams of milk sugar to one pint of water. If the infant is old enough to require eight ounces you simply take double this amount, then this is pasteurized, as it is called. On theoretical grounds this should be an excellent food. It is identical with the composition of human milk, and that it is good has been proved on a large scale. At the Sheltering Arms a few years ago the mortality was about one hundred per cent., and after using this formula it was decidedly diminished. Whether it is used there still or not I do not know, but I do know that the mortality rate was greatly diminished. Of course, it is essential that the milk used be of good quality and come from healthy cows. Until quite recently it was supposed that all risk of infection by milk was removed by boiling or sterilizing. But it was proved that such milk was less perfectly digested. Sterilization as hitherto practiced has not fulfilled the expectations of its originators, and in its vigor has been abandoned. Cases of infantile scurvy have been reported which seem to be undoubtedly due to the use of sterilized milk.

When the child is attacked with gastro-intestinal catarrh we may suspend the milk-feeding and give it mutton broth or wine, whey or raw, scraped beef. I have often seen good results from this line of treatment. Among medicines are the intestinal antiseptics, as calomel, naphthalin, creosote, thymol, salicylate of sodium and salicylate of bismuth. Calomel is given in doses of from one-tenth to one-fifth grain under three years of age, and it has the great advantage of being tasteless and being readily administered in powder with a few grains of sugar. I have had good results from salicylate of sodium, though I must say I do not think it is an intestinal antiseptic. It is prescribed in one to three-grain doses every two hours, depending on the age of the child from a few months up to three years. In these small doses the aqueous solution is practically tasteless. One grain of salicylate of sodium in a dram of peppermint water is not noticeable. Naphthalin is another excellent antiseptic, but is objectionable on account of its taste, and on account of this we have others less objectionable. One grain may be given every two or three hours suspended in mucilage in some such mixture:

B Naphthalin.....	f 3 ss.
Acaciae Muc	f 3 ij
Aq. Menth Pip.....	ad f 3 iij

It is most important that the drug be absolutely pure because very unpleasant symptoms may follow the use of impure naphthalin. Creosote is so disagreeable that it is practically excluded so far as infants are concerned, and the same is true of thymol. They can only be given in pill or capsule and no one under three years of age can swallow a pill or capsule.

Irrigation of the bowel may be done with pure water of about 65° Fahr. The water must be injected slowly. Holt has determined that to reach the ileo-caecal valve in a six months' child it is necessary to inject a pint, and double that amount if the child is two years old.

Opium should not, as a rule, be employed in the treat-

ment of this disease. Because, apart from the danger of narcotic poisoning it is injurious from its paralyzing action on the intestine, locking up the poisonous substances which should be evacuated. It is a popular belief that if these are locked up long brain disease will follow, and there is some little ground for the belief. Stimulants are often of great use, but should not be given as a matter of routine. The indications for them are weakness of the pulse, cold, clammy skin, extreme irritability and restlessness.

The most successful treatment of chronic intestinal catarrh in my experience has been from a careful regulation of the diet, saline laxatives and intestinal antiseptics. The diet may consist of such things as beef, mutton, chicken, broths of the same meats as a base, well boiled rice, and well baked mealy potatoes. Sweet-breads or game may be allowed. It is often advantageous to begin with an exclusive diet of skim milk if the patient can stand it, giving from one and a half to two quarts during the day with a little dry toast and coffee, and this will support the patient if he is kept at absolute rest. Of course on such a diet no amount of work can be performed.

For medicinal treatment we begin with a saline laxative. Magnesium sulphate is the best, given in doses of one dram every three hours until there have been several watery evacuations. The various mineral springs which enjoy a reputation for curing this disease are all dilute solutions of saline laxatives. The effect of this is to deplete the vessels and clear out the bowels. Then intestinal antiseptics are to be used—thymol, naphthalin, salicylate of bismuth. Naphthalin, like thymol, is very insoluble, and must be given in pill or capsule. The benefit of these drugs in connection with a proper diet and an occasional saline laxative is undoubted and will sometimes effect a cure in most obstinate cases if persisted in. The difficulty is to get the patient to continue what seems to him useless. The waters of the various springs are of great efficacy. We are guided in our use of them by whether the catarrh is attended by diarrhoea or constipation. Astringents, as gallic acid, acetate of lead and opium, afford little more than temporary benefit. Opium we must sometimes use on account of the pain, but it should always be associated with belladonna or atropine.

DILATATION OF THE STOMACH.

BY DR. M. E. FITCH, PHILADELPHIA.

THE diagnosis of dilatation of the stomach is made by numerous methods. First as regards inspection; we observe on looking at the patient that the upper half of the abdominal region is unusually prominent, and if the condition has continued for a long time this contrasts strongly with the emaciation of the extremities. Occasionally we see a line of curvature extending across the abdomen at the umbilicus corresponding to the lower curvature of the stomach; sometimes there is another higher corresponding to the upper curvature, but in such cases the stomach is displaced en masse. So in well-marked cases we may suspect the existence of dilatation simply from inspection. Suppose the case to be of the hypertrophic type, then we may see peristaltic movements through the abdominal wall, and these contractions may be excited by external means. Sometimes these movements give rise to pain. By the employment next of palpation we experience a sensation which has been compared to that conveyed by a rubber air cushion, and the line at which this sensation ceases

would correspond to the lower curvature of the stomach. On shaking the patient a splashing sound is produced, which may even be heard across the room, and it is the constant, not occasional presence of these sounds that gives them their diagnostic value. Placing the patient in an upright position an area of fluctuation may be detected below the umbilicus. On the employment of percussion, the signs vary with the posture of the patient, for instance, dullness when in the upright position may be replaced by tympany when lying down. Auscultation is of no great diagnostic value here, except in case of artificial distension of the stomach. Sounding the stomach with a stomach tube has been employed as one means. In the normal state you can push a sound down to a line uniting the spines of the ilium, and it has been said that when you can push the instrument lower than this dilatation must exist. I mention the method not to recommend but to condemn it. The manœuvre requires a degree of force which must be dangerous if an ulcer is present. Then it would be misleading if the stomach happened to be in a vertical position. Another method has been employed. The stomach is washed out, and then water injected until it is full. But a source of fallacies here is that the point at which toleration is produced is variable in different cases. In general it is said that dilatation exists if more than 1500 cc. may be injected.

The last method of diagnosis is by artificial distension. First you may direct the patient to take two or three ounces of water in which sodium bicarbonate is dissolved and immediately after this he is to take tartaric acid. In other words you give a Seidlitz powder, only letting it mix inside the stomach instead of outside. I have employed this method and it is of diagnostic value. Or you can inject air by means of an atomizer. The first method has the advantage that you can combine auscultation as a means of diagnosis, a stethoscope being placed over the stomach, and you can thus define very distinctly the lower line of the stomach by the points at which the fine crepitation ceases. During this inflation the abdominal organs are pushed forward and show the outlines of the stomach. In artificial distension all the signs of dilatation are rendered more prominent. If you proceed systematically I think the diagnosis of dilatation of the stomach can be made with a great certainty as any other stomach disease. And with your chemical tests in the laboratory you can prove that the absorbent and motor powers are impaired.

Certain spasms of the muscles are frequently observed in this disease and are due to an abnormal dryness of the muscles, from the draining away of their fluid. Of course the neighboring organs are displaced.

What about the prognosis and course of the disease? That depends on the cause of the dilatation. If this be cancer of the pylorus there is a fatal termination as a rule. But even then remissions may occur, and for weeks and months the patient may be in a comfortable state. When the cause lies in the cicatrization of an ulcer the prognosis is much more favorable, and still more when it is a simple atony. Dilatation is hard to cure and the only cases in which you can entertain this hope are where the cause is atony or a defective innervation from catarrh, and then only in the early periods. When years have passed, the muscular fibers are pushed apart and undergo degeneration and a cure is out of the question, though much can be done in the way of palliation.

In the treatment there are two prominent indications, the general and the local, the nourishment of the patient and the relief of the dilatation. The nourishment

is not to be maintained by pouring in fuel to the fire. The diet must be as dry as possible. Fluids are not only almost useless, but are a positive injury to the patient by increasing the condition. The patient often suffers from thirst when the stomach is full of fluid. These remarks with reference to fluids apply to that stage when the stomach contains an excessive amount of fluid, and when that is removed a certain amount may be ingested. The main staple of diet is meat, either peptonized or scraped and boiled like a Hamburg steak, and assisted by frequent administration of hydrochloric acid, fifteen to twenty drops in a tablespoonful of water every two or three hours. All starchy food, all easily fermenting substances should be absolutely prohibited. Besides a considerable amount of beef scraped and boiled, food may be given by rectal enemata, and this is about all that is to be said about the nourishment. There is great room for the exercise of judgment.

For local treatment there is lavage, washing out the stomach through a rubber tube with funnel attached. The filling and emptying should be repeated in one sitting until the water is returned clean. A great deal of tact is required to render the first operation successful, and the physician must obtain the hearty co-operation of his patient. You cannot collar your patient and thrust the tube down his throat. The relief after lavage is so great that the patient will surely demand its repetition, and in many cases there is the formation of a "lavage habit." Lavage should not be performed until several hours after eating, and it is best performed before breakfast. After a thorough washing out the stomach may be finally cleansed with a solution of salicylic acid (3-1000) or borax, two to four per cent., which are harmless yet efficacious. Benzoic acid, naphthalin, potassium permanganate and resorcin are all recommended. Resorcin, I think, is unsafe. A case has been reported where, after using a one per cent. solution of resorcin the patient became unconscious and developed spasms like those of tetanus. It is possible that these symptoms may have been due to the operation itself. A case has been reported by a great French authority of a man who learned to do it for himself and acquired the habit of doing it several times a day, until after one of the operations he had a spasm and died. So that lavage is not absolutely devoid of danger. It is certainly desirable in many cases that the patients should learn to practice it on themselves, yet they must be warned. After lavage the patient should be put to bed and a bandage applied to the abdomen. At the later stage this is not necessary. The effects of the operation are immediate; the face becomes more cheerful, vomiting and eructations cease, the bowels are more regular and the urine is increased in quantity.

Massage and electricity are valuable adjuvants to the treatment. In reference to electricity, it was doubted whether an application to the abdomen could produce contraction of the stomach. I remember a case in 1871, reported by Dr. Pepper, one of hypertrophic dilatation of the stomach secondary to cancer of the pylorus. Contractions could not be excited by external application of faradism or galvanism, and the inference was that electricity applied to the abdomen could not affect the stomach. But it has since been shown by tests that the exit of the gastric contents is hastened by the application of electricity, so this does affect the action of the stomach. Here it may be rationally employed. One electrode may be introduced into the stomach and its fellow placed on the abdomen or at the rectum. Before this is done the patient is directed to drink a glass of water.

I have said nothing so far about drugs. One at any rate is of undoubted service, and that is strychnia. It may be given in doses of one-thirtieth grain, three or four times in the day, or it may be given hypodermically. Large doses are sometimes given hypodermically but I would not recommend you to begin that way. Cathartics are beneficial, not only on account of their mechanical effect but also because of the intimate peristaltic relation between the stomach and intestine. They may be given right after lavage, perhaps pouring it into the tube in the form of Karlsbad salt. Others are colocynth, rhubarb, scammony and aloes.

A word or two about prophylaxis. It is usually discussed in the first part of treatment, but I chose to reverse the order here. We have no means of preventing the destructive forms of the disease, as from cancer, ulcer and tumors. But we have it in our power to reduce the number of purely atonic cases. We should avoid distending stomachs with fluid, for instance in cases of convalescence from typhoid fever and in patients debilitated from other causes. Many such are fed on a purely milk diet. They consume great quantities and are just the persons in whom this condition is apt to arise. They should be directed to take small quantities, at intervals. We should pay great attention to the bowels, and also pay attention to the use of such drugs as strychnia and perhaps apply the galvanic current occasionally to the abdomen. Of course no one does it. No one thinks of the possibility of producing dilatation of the stomach, unless it is one who calls himself a specialist on diseases of the stomach—because he studies nothing else!

COLORED RAYS OF LIGHT IN THE TREATMENT OF TUBERCULOSIS.*

BY DR. J. MOUNT BLEYER, F.R.A.M.S., LL.D., OF N. Y. CITY.

WE have in light rays a therapeutic agent that has been underestimated, if not altogether lost sight of and neglected to a great measure. The few thoughtful men who have striven to advance the title of light rays in this direction have been scoffed at. Their labors have not been accorded respectful consideration, simply because the average therapist will adopt nothing that cannot be demonstrated in the glass receiver of his laboratory, the reaction of which he cannot see going on before his eyes, and the formula of which he cannot determine. In the light of recent observations we are slowly arriving at the realization that some of our principles of therapeutics must soon change; that their Waterloo is impending.

In presenting my work for your criticism I shall confine myself only to study the isolated color rays of the sun and those violet rays as produced by the arc light. The X-ray will not be considered from any point of therapeutics in this discourse, as we do not understand them sufficiently enough as yet.

Before going further into this subject, let me attempt an explanation of some of the phenomena which the blue and violet rays of light have in general upon vegetation and the animal body. It is well known that differences of temperature evolve electricity, as we do also evaporation, pressure suddenly produced or suddenly removed in which may be comprised a blow or stroke; as, for instance, from the horse-shoe in the rapid motion of a horse on a stone in the pavement, striking

fire, which is kindled by the electricity evolved in the impact, or again, from the collision of two silicious stones in which there is no iron, is electricity produced.

Friction even of two pieces of dried wood excites combustion by the evolution of hydrogen gas which bursts into flame when brought into contact with the opposite electricity—evolved by the heat. Crystalization, the freezing of water, the melting of ice and snow, every act of combustion in respiration, every movement and contraction of organic tissues, and, indeed, every change in the form of matter evolves electricity, which in turn contributes to form new modifications of the matter which has yielded it.

Light is one of the forms of radiant energy, being transmitted from place to place by means of transverse vibrations of the medium ether, which fills the whole of space. This mode of transmission is known as "wave-motion," the nature of which is well illustrated by the progression in water of the disturbance due to an impulse given to it at any point, e. g., by dropping in a stone, the disturbance travels onward as an undulation, as a succession of waves, while the water particles oscillate about their point of rest, but do not undergo any motion of permanent translation. The distance from crest to crest of two succeeding waves is the wavelength, differences in which do not cause any change in velocity of propagation of a wave of light through the ether.

Chemical action is merely a synonym for electrical action, hence in all the functions of the animal body, from its birth to its dissolution, we may observe the influence of electrical currents, the development of magnetism, by the conjunction of them, oppositely electrified, and the production of heat. In the first inspiration of atmospheric air into the lungs where it encounters the blood oppositely electrified, heat and magnetism are evolved, and the purified blood has one electricity, which repels itself into the heart, and thence by the arteries through the system. When it reaches the capillaries it has lost more than two degrees of its temperature, and being forced through the capillaries, or small arteries, into the veins, as well by the repulsion of the electricity of the arterial blood, as attracted by the opposite electricity by the veins and the blood they contain, the temperature is increased till it reaches 98 degrees Fahrenheit, which it carries with it to the heart.

We have thus seen that the magnetic, electric and thermic powers of the sun's rays reside in the violet ray, which is a compound of the blue and red rays. These constitute what are termed the chemical powers of the sunlight. That they are the most important powers of nature there can be no doubt, as without them life cannot exist on this planet. Without these chemical powers there could be no vegetation or anything else.

Light is inimical to, and under favorable conditions may wholly prevent, the development of organism. The action of light entirely destroys the bacteria, or reduces them to a condition of torpidity, which requires months of darkness in favorable surroundings for them to overcome. In my experiments which were made I took small test tubes containing cultivation fluid, which were suspended in deep, narrow boxes made of garnet, red, yellow, blue and ordinary glass, respectively. Although the blue and yellow glasses were not monochromatic, the results showed that the action is chiefly dependent on the blue and the violet rays.

Light acts as a stimulus to animal and plant protoplasm. It induces characteristic changes of form in individual cells, and causes movements in fixed directions in free-living unicellular organisms.

*An Abstract of a paper read before the Medico-Legal Society and Congress of Tuberculosis, February 21, 1900.

I have discovered by experiment and practice the special and specific efficacy in the use of the combination of the caloric rays of the sun, and the electric arc light in stimulating the glands and cells of the body, the nervous system generally, and the secretive organs of man and animals. It, therefore, becomes a most important adjunct element in the treatment of acute and chronic diseases, especially such as have become chronic, or result from derangement of secretive, perspiratory or glandular functions, as it vitalizes and gives renewed activity and force to the vital currents that keep the health unimpaired, or restore them when disordered or deranged. My entire early experience in this line of work was founded on patient experiments upon young and old animals of several kinds. Since the last five years I employed these different rays of light in the treatment of many forms of tuberculosis and various other forms of diseases. I came to the conclusion that light is one of the most marvellous therapeutic agents yet employed to combat tuberculous conditions. Many experiments could be brought forward to show you how its effects are made visible by comparison; but suffice it to say, that trials by others will prove my work; that it stands upon its own merits.

All these important and pointed phenomena of violet and blue rays led me to test their efficacy upon the human organism for different ailments as I say, and I found that exposure to the rays for an hour or two daily, in all forms of tuberculosis and other forms of lung diseases, in nervous exhaustion produced from worry, overwork, in weaklings, senile decay, and a host of other diseases, gave excellent account of themselves. A number of experiments were carried out in acute infectious diseases, as in scarlatina, diphtheria, etc., to the power of this light may be credited also much therapeutic value.

I have found the best results were gotten from the violet rays, as generated by colored glass and concentrated sunlight by means of lenses, or as passed through colored glass alone, or colored fluid media, produced during the period of the season in this latitude when the sun's rays were strongest, as during May, June, July, August, September and October. Though, nevertheless, some of my experiments on animals for comparison have shown that the influence of the violet rays were very marked, even when the declination of the sun was such, during a period of comparative feebleness of the force of the actinic or chemical rays. This time was especially selected for experiment for that very reason. It is almost immaterial whether strong electric light is employed or the solar light. Of course, one can always depend on electricity at all hours of the day and season, and so be independent as to its regular employment. We know positively that electric light has similar chemical properties to sunlight; it affects the combination of chlorine and hydrogen, acts chemically on chloride of silver, and can be applied in photography.

Arguing from all that I have said and all that is known about the blue and violet rays in conjunction with the atmospheric conditions in general, I set out to make practical application of these colored rays of light as an adjunct to the treatment of tuberculosis, in their various stages of progress, as a prophylactic in supposed early stages, etc. Much to my satisfaction, the practical experiments which I have tested in so many different conditions in tuberculosis, these tests have all given good account of themselves in most instances, so that I am very happy to make you acquainted with my results, as I have found them. I am of the positive belief, from my acquired practical and theoretical knowl-

edge of facts, that the best method to treat tuberculosis and other forms of lung disease is in specially designed solariums at home or at a sanitarium where violet lights can be generated, according to the requirement of each individual case and specially treated upon principles according to the condition of each case.

From all the reports and researches to the present day by all the expert men in this branch of study, we find but one cry, and but one concert of opinion, for the successful treatment of tuberculosis: hygiene, food, sunlight!

METHOD OF PASSING HIGH VOLTAGE CURRENTS THROUGH THE CHEST, AT THE SAME TIME GIVING INHALATIONS OF ELECTRIFIED AIR.*

BY HARRY F. WAITE, M.D., NEW YORK CITY.

BEFORE proceeding to describe my method, I wish to demonstrate a fact which is probably not known to many present, namely, the carrying effect of electricity generated by the Holtz Machine. Of course you all know the peculiar sensation produced by the positive breeze.

About 1890 I was experimenting with a small Holtz machine enclosed in a case, and not wishing to waste any time finishing the parts, gave them a coat of paint, and before it had time to dry I tried the machine. To my surprise I saw the paint blown from the painted pieces all over the enclosing case. I then had an electrode made like the one I will show you to-night. It was a hollow piece of brass, pointed, and having a hole through the point. I then found I could, by filling this electrode and connecting it with the positive pole of the machine, spray the paint wherever I desired, and regulate the amount by the speed of the machine. I did no more experimenting on this line until last year, when I had a case on which I had tried everything I could think of without benefit. Then I happened to think of the experiment just described, and thought I could try it on this case. I took some felt, and fastened it on a glass point electrode and then dipped it in a 2 per cent. solution of carbolized water. After the first treatment there was a marked improvement—the second treatment rallied the patient completely. I will now illustrate the effect of the paint with this electrode.

My method of treating the chest is on the same principle. I had a case of chronic bronchitis with which I could do nothing until I tried the following method. The ozone generator was connected with the Holtz Machine in the regular way and from the positive side a wire was connected with a large electrode thoroughly wet with a one per cent. solution of carbolized water, which was placed over the anterior chest wall and a similar pad over the posterior chest wall and connected with the ground. The current strength was regulated by separating the brass balls in the ozone generator, so that while the patient was having a current sent through the lungs he was breathing electrified air through the ozone generator. The effect was wonderful. Improvement began at once, and in four weeks the patient was cured.

—The State Board of Health of California has decided not to establish a quarantine against the consumptives of other States.

*Abstract of a paper read before the Congress of Tuberculosis, Feb. 21, 1900.

THE DIAGNOSIS AND TREATMENT OF APPENDICITIS.

BY DR. A. G. ELLIS, PHILADELPHIA, PA.

THE three cardinal symptoms of appendicitis are sudden pain, localized tenderness in the right iliac fossa, and rigidity of the recti muscles, particularly of the right. Other symptoms often present, but more inconstant, are fever, vomiting, constipation or diarrhea and a tumor in the appendix region. The mistaken idea is held by some that this sudden pain begins in all, or nearly all, cases in the right iliac fossa. The fact is that in many cases the pain is misleading in that it is felt first in the epigastric region or in the neighborhood of the spleen or the umbilicus. Some observers believe that in the majority of cases the pain is not first noticed in the region of the appendix. This is one of the reasons why several diseases of the abdominal organs, accompanied by pain, are apt to be mistaken for appendicitis, and vice versa. The principal ones of these giving difficulty in diagnosis are intestinal obstruction, pelvic disease in females, and cholecystitis.

The greatest difficulty in differentiating between intestinal obstruction and appendicitis is met with in cases that are not seen until late. Diffuse peritonitis and tympany are then apt to mask the real seat of the lesion. Fecal vomiting is never seen in appendicitis, and is present in the vast majority of cases of obstruction, and this furnishes one valuable aid in the diagnosis. A history of a previous attack or attacks is often to be obtained in cases of appendicitis. This very fact, however, was perhaps misleading in a case reported by Kölliker. The patient was a woman who had had no attacks of biliary colic previously, but had an attack of appendicitis a few months before. She became constipated, fecal vomiting arose and a tumor appeared in the ileo-cecal region. No biliary symptoms appeared, and the case was diagnosed as one of obstruction caused by an appendiceal exudate. The abdomen was opened and a gall-stone filling the lumen of the bowel was found and extracted, the patient afterward recovering. Kölliker states that diagnosis is very difficult in such cases, but that the tumor is more movable in gall-stone obstruction than in appendicitis, and there is an acute and nonfebrile onset.

In distinguishing between appendicitis and disease of the pelvic viscera, difficulty is frequently met with. Examination per vaginam is of the greatest aid in these cases and often clears up a doubtful case.

In obscure cases the patient should be anesthetized for the examination. This is also of great help in making an external examination of the iliac region in suspected appendix cases. Sonnenberg states that the immobility of an abscess when low down helps in referring it to the pelvis. Appendicitis is more apt to be mistaken for inflammation of the right tube and ovary than the reverse. The history of previous pelvic trouble is important, as it is rare for the tube to be affected without a previous involvement of the uterus. The pain in pelvic cases is rarely referred to the stomach and umbilical region, and there is less general disturbance than in appendicitis. Delagènière believes that the appendix is very apt to be involved in these cases of pelvic disease. Diagnosis is important, as it may determine between an abdominal section or vaginal removal. When there are sudden attacks of pain in the right iliac fossa, unassociated with the catamenia, and there is gastro-intestinal disturbance added to symptoms of disease of the appendages, the pelvis should be explored from the abdominal side. If the appendix be involved, in the way of chronic inflammatory change, it can then be removed at the same time as the tube and ovary. This view supports the practice of some

surgeons who prefer to use abdominal section for all cases of tubo-ovarian disease in order that they may see the true state of the pelvis and adjacent organs.

Cholecystitis at times gives rise to symptoms that might easily be mistaken for inflammation of an appendix situated high up. J. M. Da Costa brought a case before his clinic at the Pennsylvania Hospital, Dec. 3, 1898, which he designated as one of cholecystitis simulating inflammation of the upper part of the appendix. There was some difficulty in diagnosis, and the remark was made that few patients are saved from the knife under like circumstances. There was marked rigidity of the right rectus muscle and tenderness in the right iliac fossa which, however, did not remain low down for a great length of time, and did not become localized there. There was also spontaneous pain. Appendicitis was seriously thought of, but bile in the urine suggested liver complication. Later the pain and tenderness became localized over the gall-bladder. The diagnosis was finally based upon the presence of bile in the urine, the irregularity of the fever, and the final localizing of the pain and tenderness. When the latter occurred, the diagnosis was comparatively easy, but in the early stages the detection of bile in the urine was the only thing to suggest that the case was other than one of appendicitis. J. B. Deaver gives the following points, among others, as helping to distinguish between appendicitis and cholecystitis: 1. Vomiting is more persistent in cholecystitis as a rule. 2. There is generally the history of more attacks in appendicitis. 3. There is more often jaundice in cholecystitis. 4. Hiccough is more common in the latter. 5. A purge is more apt to give relief in appendicitis. Osler mentions two cases of sudden onset of severe pain in the right side of the abdomen, with the appearance of an ill-defined tumor low in the right flank. Operation was performed, and in the first case an acutely distended and inflamed gall-bladder on the point of perforating was found. The second case was very similar.

The question of treatment in appendicitis brings up a nice point and one over which war is being merrily waged, chiefly by surgeons, it is true, but the general practitioner also enters the combat at times in order to show that he is not afraid. Advocates of both the radical and conservative methods of dealing with the affection probably go beyond the bounds of what is best at times. But the happy mien is exceedingly difficult of attainment in this instance, and there are well-sustained arguments for the followers of both methods mentioned. It does seem to an impartial observer, however, that a boldly aggressive style of treatment more nearly meets the conditions to be combated in appendicitis than does any other method that has been adopted. As one writer observes, "the gravity of appendix disease lies in the fact that from the very outset the peritoneum may be infected; the initial symptoms of pain, with nausea and vomiting, fever, and local tenderness, present in all cases, may indicate a widespread infection of this membrane." In contrast to this condition, which is present with the first symptoms of the affection, may be mentioned cases of men who have left their work in the shop or on street cars at the onset of the symptoms, entered hospitals and been operated on the same day, the operation revealing, not peritonitis, but a walled-off pus cavity of large dimensions, at the point of discharging its contents into the abdominal cavity. From these and other points of view, temporizing must be regarded as dangerous to the welfare of the patient. Not only must the fact of what does happen in many cases not interfere with be considered, but regard must also be had for the great probability of grave conditions arising suddenly at any time in any

case. In other words, the nearer an acute attack of appendicitis is treated as an emergency case the more nearly it comes to being met on its own grounds.

As to the treatment of appendicitis, Osler's latest conclusions are as follows: "So impressed am I by the fact that we physicians lose lives by temporizing with certain cases of appendicitis, that I prefer, in hospital work, to have the suspected cases admitted directly to the surgical side. The general practitioner does well to remember—whether his leanings be toward the conservative or radical methods of treatment—that the surgeon is often called too late, never too early. There is no medicinal treatment of appendicitis. There are remedies which will allay the pain, but there are none capable in any way of controlling the course of the disease. Rest in bed, a light diet, measures directed to allay the vomiting—upon these all are agreed. There are two points upon which the profession are very much divided, namely, the use of opium and of saline purges. The practice of giving opium in some form in appendicitis and peritonitis is almost universal with physicians. Surgeons, on the other hand, almost unanimously condemn the practice as obscuring the clinical picture and tending to give a false sense of security; and, since they control the situation, I think we should—deferring in this matter to their judgment—give less opium, and trust to the persistent use of ice locally to relieve the pain.

The use of saline purges early in the disease, which is advocated by some surgeons, is, I believe, a most injurious practice. In any given case the pain and tenderness at the outset may mean perforation of the appendix, and the life of the patient may depend upon whether a limiting adhesive inflammation is set up. Under these circumstances, anything that will stimulate active peristalsis of the bowel wall throughout its extent is certainly contra-indicated. Surgery, too, has taught us that the cecum is rarely, if ever, filled with hardened feces, so that it is really on theoretical grounds that a saline is urged to clear this part of the bowel. I am glad to see, too, that some surgeons of the largest experience, as McBurney, state that they never employ purgatives. They are also contra-indicated, I think, when there are signs of the formation of a local abscess. If useful at all, it is when general peritonitis has been established, but then, as a rule, the mischief is done, and purgatives cannot influence the result. Operation is indicated in all cases of acute inflammatory trouble in the cæcal region, whether tumor is present or not, when the general symptoms are severe, and *when by the third day the features of the case point to a progressive lesion.*

J. C. Da Costa advises a saline cathartic in cases of appendicular colic, with a hot-water bag to the right iliac fossa and careful watching. It is not safe to give a purgative in genuine appendicitis. In mild cases leech over the right iliac fossa, apply an ice-bag, give an enema, place the patient on a bland liquid diet, administer antipyrin for the pain, and maintain rest in bed. If the case is not better in thirty-six hours, operate. If it becomes worse within that time, operate at once. In any severe case operate at once. He does not believe that it is proper to always operate, as some maintain. Such a rule makes decision easy, but not of necessity right.

James Tyson says that as soon as the diagnosis of appendicitis is established, indeed, pending its settlement, a competent surgeon should be associated with the physician, because in a great majority of cases operative treatment is sooner or later demanded, and because the surgeon who operates frequently is likely to have seen more cases than the physician. The diagnosis being established, operative treatment should be recommended,

except in those cases where the disease is so far advanced as to make it unlikely that the patient will be saved by operation. His reason for this belief is, that while a majority of cases of simple appendicitis may subside with rest, in a very large number, at least 25 per cent., the primary attack leaves the patient predisposed to another at once more severe and dangerous than the first, while we have no guarantee that any attack will subside without suppuration, or, what is worse, without leaving the condition referred to, in which malignant inflammation or perforation may set in at any moment without warning. It must be admitted that it is not always easy to lay down a rule by which operation shall be determined, for it is not only that we must know when to operate to save life, but also that we must know when not to operate in cases so severe that operation will be futile. Much difficulty is, however, removed when we decide to operate *without undue haste* in all cases so soon as the diagnosis is established, except where operation will evidently be futile. He says without undue haste, for in many cases it is plain that a few days' delay, if the patient is kept at rest, will make no difference in the result, while if the inflammation is subsiding, a stage is reached in which the operation is even less dangerous, since the united experience of surgeons goes to show that the mortality of operations between attacks is practically *nil*, while that immediately succeeding diagnosis in ordinary cases is nearly so. Even where suppuration has set in, it may be safe to delay operation for a day or two, while the patient is held quiescent.

John B. Deaver still maintains the propriety of operating in acute appendicitis as soon as the diagnosis is made, and the larger his experiences become the more he is convinced of the wisdom of this course. His experience in several hundreds of cases at the German Hospital in the last two or three years entitles his opinion to great weight in considering the methods to be followed in dealing with these cases. This procedure may seem radical, but its success demonstrates the fact that it secures a minimum of fatal results from appendicitis. True, some cases may be operated upon that would have recovered from *that one attack* had they been treated without operation. But as has been said by writers quoted in this article, such an appendix is a menace to the individual, with the chances in favor of another attack. So we fail to see any great weight in that argument against operation in all such cases. A few days or hours may seem a short time to wait for developments, and in some cases is productive of no harm. In others the waiting, however short it may be, is the difference between life and death. We believe that the profession is tending more and more toward the use of radical measures in dealing with appendicitis, and that this is the proper method of dealing with this uncertain and elusive disease.

—The *Medical Age* credits a French medical journal with the following story: "A young woman conceived an ardent passion for a youth, who in turn refused to marry her. She then charged him with forcible violation. A surgeon who examined her found the hymen ruptured and blood on her linen, but no sign of the violent encounter she alleged had occurred. Investigating somewhat further, he found in the vagina a hen's egg, which could only be removed after breaking the shell. If the egg had been fecundated and it had been allowed to take its course to maturity uninterrupted in the vagina, there is no telling what interesting questions in legal teratology would have arisen."

THE NEWER TREATMENT.

REPORTED BY A. G. ELLIS, M.D., PHILADELPHIA.

An Interesting Case of Spleno-Medullary Leukemia—The Different Manifestations of Rheumatic Fever—A Case of Arthritis Benefited by Syrup of Ferrous Iodide, Etc.

Spleno-Medullary Leukemia—The patient in question is a car-builder, thirty-six years of age. He has been under observation at different times for a period of three years and presents the clinical history of one of the more chronic forms of the disease. His family history is good.

The first trouble noticed was a series of digestive disturbances rather mild in character, these at first being attributed to irregular and hasty eating of meals. There was irregular headache, some epigastric pain, slight fever at times, and vomiting. The latter symptom was not generally marked, material being ejected at intervals while the patient was on his way to work at times.

After these attacks had persisted for some time and then practically disappeared his present trouble began. The man was not really ill but noticed a swelling of the abdomen and some dyspnoea upon exertion. When first seen three years ago there was no rise of temperature, but lately it has been oscillating between 102° and normal.

At present the man has a remarkable pigmentation of the skin due to the large doses of arsenic which have been given—at times forty minims of Fowler's solution three times a day. The spleen extends from the sixth rib to the crest of the ilium and beyond the median line about three fingers' breadth above the pubic arch from there being traced, considerably to the right of the umbilicus, to the tip of the sternum. A slight tossing or nodular feeling has appeared lately, but is not yet distinct enough to determine whether this is due to enlarged accessory spleens or to lymphoid growths in the organ itself or possibly to organized infarctions. The blood count has been taken at various times and shows different proportions of cells. Thus there is one reading of one white corpuscle to seven red and at other times one to ten, twelve and sixteen. One differential count gives polynuclear leucocytes forty-seven per cent.; small lymphocytes, four per cent.; large lymphocytes, six per cent.; eosinophiles, five per cent., and megalocytes thirty-eight per cent. The man has been working at his trade practically all the time he has been under observation.

There are one or two very interesting points regarding this case. The first is that the trouble developed in the absence of one of the conditions generally given as an important factor in its etiology—namely the previous existence of malaria. There is absolutely no history of attacks of that disease in this man's case. From this and other cases observed one must hesitate before reaching a definite conclusion as to the causal relation existing between malaria and spleno-medullary leukemia. In certain parts of the country malaria is extremely prevalent, it being almost continuously present, and at times there are outbreaks in regions which have been free for some time. Hence malaria must be regarded as a very common disease, it being not at all infrequent where this man originally came from—the lower valley of the Delaware. The facts then are that there is a tremendous amount of malaria while leukemia is an uncommon disease. If the absolute conditions were such as quite generally thought leukemia ought to be quite common.

Another point in this case is that there is no history or suspicion of syphilis, another condition which we consider as a predisposing cause of leukemia. So there is the absence of two of the commonly supposed great causes of the disease in this case. The history shows it to have developed after gastro-intestinal disturbances consisting of uneasiness, slight fever, vomiting in the morning, headache, etc., these attacks sometimes occurring three or four times a week. These have not occurred since the outset of the present trouble.

As to the treatment the arsenic will be continued in spite of the pigmentation the amount being regulated by the amount of puffiness, diarrhea, etc. The patient is now getting nine minims of Fowler's solution three times a day. In addition inhalations of oxygen will be given. Lately a little less than a drachm of ergotol has been given hypodermically once a day and this is believed to have had a slight influence upon the spleen.

The Manifestation of Rheumatic Fever—The case which I use as a text for my remarks is that of a Russian boy of seventeen. He has had three or more attacks of rheumatic fever and now has a great hypertrophied heart with aortic insufficiency and adherent pericardium. The point regarding the disease which I wish to impress is one that makes plain the various clinical phenomena attending it. The point is that heart lesions are to be regarded more as accompanying phenomenon than as complications.

We are yet in the dark as to the actual etiology of the disease. Cold or damp weather, or especially damp cold seems to have a great influence in the causation of attacks, yet they also develop in the warmest weather of the year as in this boy's case. Whether it will be shown that the disease is due to auto-intoxication favored by heat and cold or to a specific organism remains a question. The manifestations of the disease are of the utmost importance.

The essential cause of the disease whatever it may be usually affects the joints, but in perhaps one-third of the cases not only the joints but the endocardium or pericardium, or both. In a certain proportion of cases other serious membranes are also affected. There is some agent in the blood then to which the tissues of joints are the most obnoxious and other serous membranes in varying degree.

From this reasoning the various clinical characteristics become clear. In cases with mild joint lesions the heart involvement may be a serious one. What differences in individuals determine this is not known. There may even be febrile attacks with no joint lesions noticeable but an endocarditis is set up. My own experience leads me to believe that light attacks of the disease, as measured by the general signs, are more apt to exhibit endocarditis. It is often the case that children of rheumatic parentage show heart lesions when a history of rheumatism cannot be obtained. Further inquiry, however, elicits the fact that there have been slight febrile attacks or perhaps what is popularly known as "growing pains." These doubtless have been mild attacks of rheumatic fever, in which the force of the disease has been expended on the endocardium instead of the joint tissues.

Now as to the treatment of an attack of endocarditis developing while a patient is under treatment for rheumatic fever. It is rarely that I give any drug. In some instances there is slight pain, a little dyspnoea, or a recurrence of the febrile movement if it has already ceased, but in the majority of mild or subacute cases there are no symptoms at all. The patient is not aware of the

change taking place, and this is only detected by a physical examination. Acute cases should be treated with energy. First, some points of general treatment.

The patient should be well purged. This relieves any tendency to visceral congestion and further involvement in the process. He should next be placed on a restricted diet. I do not advise an absolute liquid diet, but one that will develop no plethora. It should consist of easily digested materials, largely milk, soups occasionally, jellies, puddings, fish or white meat of fowls sparingly, etc. The secretions should be watched and the best diuretic, pure water, given freely.

If there is precordial pain, my first choice is the use of the ice-bag. This slows the heart and thus secures prolongation of systole without drugs. It should not be applied continuously, a couple of hours morning and evening usually being sufficient, but this time can be lengthened as indicated. If this does not relieve the pain a belladonna plaster may be applied. This, however, is probably of not much use in the female or in males with large breasts. If there is much hair in the case of a male it should be shaved before the plaster is applied. One point should be remembered and that is to apply the plaster where it will not interfere greatly with auscultation.

All this treatment is general and we come now to the essential treatment of endocarditis—*rest in the horizontal posture*. This is the real treatment of cases which are known to be acute from their having developed while the patient is under observation. There may be orthopnea in some cases which will interfere with the rigid carrying out of this demand, but this is not often seen. In six or seven of ten cases there will be no symptoms that the patient recognizes. Say nothing to him about the condition and encourage him as much as possible, saying that a full recovery from his attack of fever demands a lengthened rest in bed during convalescence. How long after the acute symptoms have subsided may the endocarditis show itself? The murmur in this patient appeared five days after the fever and joint symptoms had disappeared. The better plan is to keep the patient at rest in all cases of rheumatic fever for at least two weeks after the joint symptoms have disappeared. We have kept this man on his back for one month now since the heart lesion manifested itself and he must continue at rest for some time yet. This treatment is incomparably better than drugs. A simple mathematical computation will show how many less beats the damaged heart will make each twenty-four hours. This is of the greatest importance and attained thus without drugs.

Germicides or antiseptics given internally in these cases are of no use practically. Not enough get into the blood to be of any service.

Arthritis Benefited by Syrup of Ferrous Iodide—The case is that of a man, supposed to have gonorrheal arthritis. There had been no improvement under various anti-rheumatic remedies. The man's general health was bad, and he was in a rather serious condition. Syrup of the iodide of iron was then begun and pushed until at the present time the patient is getting forty minims four times a day. Under its use great improvement was noted, both in the joints and in his general condition. In the meantime a bacteriological examination was made of the fluid in the left knee joint and, instead of the gonococcus, streptococci were found.

The question then arose as to whether the iron should be abandoned and the use of the anti-streptococcal serum be begun or whether the two should be

used together. After considering the great improvement then going on it was decided to do neither of these, but to continue the treatment then in use. The patient is now decidedly better and gaining rapidly.

The point of the case is this: Is the syrup of the iodide of iron of use against streptococcal infection? One case of suspected gonorrhea arthritis, really streptococcal infection, has done well under its use which suggests that it might be of service in the joint affections of septicemia. This is uncertain ground and we tread lightly. It may be worthy of thought in some cases. Laboratory workers in therapeutics have great problems to solve, which the results of clinical therapeutics oftentimes settle with a greater degree of accuracy.

Unusually Profuse Eruption in Typhoid Fever—This case is a very instructive one as regards the character of the eruption in typhoid fever. The spots characteristic of typhoid appear practically at the end of the first or the beginning of the second week of the disease. In this case they are very significant and general so there is no difficulty in distinguishing them as is sometimes the case. Generally they are very sparse on the abdomen and chest, at times a few on the back, almost never on the face, and rarely on the extremities.

This case, which has been one of not more than average severity, shows an unusually profuse and coarse rash. It is rare indeed that such a profuse one is seen, but in addition these spots are larger, almost papillary. Moreover these spots are not only larger to the eye, but some do not wholly disappear on pressure, being unlike the ordinary in this respect.

Another point is this. The rash is seen not only so profusely on the abdomen and back but extends to the thighs also, and is seen on the arms, on the neck and even a few spots are to be seen on the forehead. This is one of the most profuse rashes I have ever seen, this being only about the fifth case in which I have observed spots on the face.

The question arises, Is there anything peculiar about the case itself? This can be answered in the negative. There has been the average temperature and the abdominal symptoms have not been out of the ordinary. There has been constipation instead of diarrhea, which would indicate that the intestinal disturbance, if anything, was less than in the large number of cases. The tongue is soft and hardly has the characteristic typhoid appearance. Hence we have here just an ordinary case of typhoid fever with the exception of the remarkable eruption.

It has been assumed by some that there exists a certain proportion between the amount of the eruption and the gravity of the case. I cannot say this is true from my experience unless only in the most general way. That is, the rule is a very general one with very many exceptions, the case before us being a very marked exception. The prognosis then in this case is no worse than if the eruption was not so prominent a feature of its course.

Malaria Occurring During Pneumonia—The second case I show is instructive in connection with the one discussed at a recent clinic, in which there was intercurrent malaria with typhoid fever. There is not typhoid fever here, but malaria occurring with another disease.

This boy of eighteen was admitted four days ago, suffering from a violent pain in the right side, the pain being associated with a plastic pleurisy and limited pneumonia. The pneumonia never spread very much,

and the temperature, which was 101° upon admission, went up afterward to 105° and then within sixteen hours fell to 96.4° .

What was done? The patient was given morphine and atropine hypodermically, and internally nitrate of potassium and Dover's powder. Day before yesterday the pleural friction sound was nearly gone, as were also the physical signs of pneumonia, and the boy was considered to be doing very well. But after doing so well on this treatment and the temperature being subnormal at twelve o'clock at night, the patient had a chill, his temperature rose to 104° , and it looked as if there was a fresh invasion of the pneumonia. But next morning his temperature was down to 97° . His blood was then examined and extra-corporeal, motile bodies were found, showing that there was present malarial infection of the æstivo-autumnal variety.

Quinine, sixteen grains, was at once given, but this did not prevent another chill and a rise of temperature to 104° . Then twenty grains were given and there has been no further chill. This is a very instructive case, as it is an absolute demonstration of intercurrent malaria in the acute diseases, in this instance pneumonia.

Two or three clinical questions are suggested by this case. There has always been an idea among Southern physicians that malaria was a cause of pneumonia. It was also supposed by some that the malarial poison *per se* was the cause of this condition, it localizing in the lung and producing the results. This was before our present knowledge of the pathology of malarial fever, of course. But even with the disclosures of modern research I am not prepared to say that this is not the correct idea. And why should it not be the case? Inflammation is set up elsewhere. Why not in the lungs? It is quite possible that instead of using the term intercurrent here, it would be more correct to say that the malarial poison invoked the pneumonia. But it is impossible to say which is the case. At least it furnishes a case in which malaria occurred during an acute disease.

The practical point in diagnosis and treatment is that if these sudden changes come in pneumonia, they do not necessarily mean that the patient is getting worse, but that malaria may be the cause, and blood examination is called for. The only fault in the treatment here was that we did not give quinine enough at first to prevent the chills. It would have been better in such a case to have given twenty or even thirty grains in the beginning. One point in conclusion: Was the first drop to 96° due to the malaria also, or was it the crisis in the pneumonia? The latter is possible, as it occurred at about the time the crisis might be expected, but I am beginning to think it was due to the malaria. This is only another illustration of the value of blood examination in all cases which suggest an anomalous condition, whether they be pneumonia, typhoid fever, or any other disease.

Peripheral Paralysis.—Our next case is of an entirely different character. The patient is a colored man of twenty-eight, who has been in the hospital more than two months. He is a beer drinker, only occasionally taking other alcoholic drinks. There is also a strong suspicion of a specific history in the case.

Prior to his admission to the hospital he was suddenly seized with pain in the feet, then in the head, and finally this became general. Along with the pain there was great cutaneous sensitiveness. An instructive point also is that in addition to the cutaneous sensitiveness, deep pressure on the muscles and also over bone showed great tenderness in these structures. Following this stage in two days he became powerless in his legs, and shortly af-

ter in the arms also. There was also incontinence of the sphincters, but with these symptoms there was no loss of sensation. The muscle sense was present, as was also the appreciation of heat and cold. The patient never had wrist drop, but some foot drop developed and afterward became marked. There is to be noticed some atrophy of the muscles of the sole of the foot. At first there was a slight fever, this reaching 102° , but it soon came down to practically the normal line. Examination shows the kidneys and lungs to be in good condition. The first sound of the heart is rather weak, and there is a slight irregularity in its action for a few beats at a time. The patient has some motion in his legs now, and also some of the arms, but it is not yet marked. There is tremor of the tongue, arms, and fingers, but no wrist drop. The man had some headache when the attack first began. What ails him?

We have here a case of peripheral paralysis from multiple neuritis. The recognition of this affection following multiple neuritis may be looked upon as an acquisition of the present day. Even within my time of practicing it was unknown and peripheral paralysis was supposed to come only from affections of the brain and cord. It has since developed that we may have paralysis from peripheral causes quite as much as from disease of the centers.

The cause is practically always a neuritis. In the clinical history of these cases it will be found that *poisons* play the most prominent part in setting up the neuritis. As a general description I would say that the *particular* poison is alcohol, as nearly all cases are due to it. While this is true, alcohol, of course, is not the only cause. It may come in diphtheria; typhoid fever, arsenic and phosphorus are causes, and the anilines also may produce it, though not often. If asked whether in the cases caused by alcohol this agent was always introduced into the body in the shape of whiskey, brandy, or gin, I should say it was not. It has been demonstrated that beer is just as likely to cause the condition as are the other beverages mentioned. Again, the poison of syphilis may produce it.

This case also illustrates very curiously another point, namely, that the disease rarely comes on as acutely as in this instance. Generally there is a time when pricking or other uncomfortable sensations are felt before the severe manifestations appear. For this reason the case somewhat simulated acute ascending paralysis, it also beginning in the feet first. This is also one of the forms of peripheral neuritis.

I call attention to the symptoms, especially the early ones. These were the extraordinary tenderness which was very significant, and also the deep-seated tenderness. A very singular fact is that the knee jerks were increased with this tenderness. The tenderness has now disappeared and the knee jerks are also gone.

Attention is called to the paralysis of the extensors and the marked foot drop. This paralysis of the extensors is also present in lead poisoning, but it affects the upper extremities, while alcohol shows its effect in the lower. The case is now in its later stages.

What is the prognosis in these cases? Most of them recover under proper treatment. How completely do they recover? This question can always be answered better after an electrical examination has been made, which has not yet been done in this case. If there is very little response to either current, or if the so-called reactions of degeneration are present, with some atrophy of the muscles, the prognosis is not nearly so good for complete recovery.

What should be done in the way of treatment? First,

the great thing to be done for all cases due to neuritis is to secure absolute quiet. Put the patient to bed and keep him there. No case can recover while the patient is on his feet. Second, put him on a mild, nourishing diet, perhaps liquid food at first, then semi-solid, or regular fever diet if this agrees well with the patient. Third, keep the patient warm. Nothing gives so much relief as warm fomentations or even a warm bath, if the patient can stand the manipulation necessary. Very often the tenderness present will prevent this measure being employed, but it should be used wherever possible. The bath should be at a temperature of 100° or 102°, and the patient kept in for twenty minutes to half an hour twice a day. Fourth, avoid massage and electricity. In my experience these measures only make the condition of the patient worse. Later in the course, when we are dealing rather with the results of the disease than with the disease itself, they may be used with some advantage. The great point is to not disturb the patient while the nerves are inflamed, as this may do great damage in the early stages of the disease.

Internally two or three drugs are of some use. The iodides are perhaps the best and were given here, also being indicated by a suspected specific history. The syrup of the iodide of iron is now being substituted and is acting well, being more tonic in its effects. The patient is now taking three drachms daily. The syrup of the hypophosphites may also be given in drachm doses three times daily.

What shall be done for the pain when it exists? As before stated, warmth gives great relief, and fomentations may be employed. Hypodermics of morphine and atropine may be necessary, but should only be used as a last resort.

Milk Leg as a Sequel of Typhoid Fever.—Our next case shows one of the rarest sequelæ of typhoid fever. The patient was admitted two weeks ago, suffering from an ordinary attack of typhoid fever. There was nothing remarkable about the case, it presenting the usual symptoms, with no especial intestinal irritation. Within two days, or during the fourth week of the fever a hardening and swelling of the left leg has appeared.

It began with considerable pain in the whole leg, and this was soon followed by the swelling, which extends to the foot, but is most obvious in the thigh. The leg is rather livid, but there is not edema, strictly speaking. There is a hardening felt at the junction of the internal saphena with the femoral vein, but not a great swelling of the veins of the leg.

Is this a common affection in typhoid fever? In my experience it is not. On looking over my hospital records I find that no year of my service has been free from cases of this sort, but there has not been over two or three in any year, with the exception of one. That one was last year, when so many soldiers were brought in from Cuba. There were thirty-six cases of milk leg among these. A second fact illustrated here is that the affection is one of convalescence rather than earlier, it rarely being seen during the height of the fever. Again, as bearing upon the clinical course, we have had here what is the rule—the greatest tenderness in the calf of the leg. I have in some cases detected this tenderness before the other symptoms manifested themselves and lay great stress upon this fact.

The common doctrine regarding the cause of this affection is that it is due to phlebitis. This is probably correct, but I am not so certain of this as at one time before. There are so many cases without phlebitis that I am inclined to think phlebitis is secondary. Nearly al-

ways there is a thrombus first. Both are due to infected blood, it containing toxins or the bacillus itself. There are few opportunities for pathological investigation, but in what have been examined the typhoid bacillus has been found. There is then infection of the blood followed by thrombosis, and there may or may not be phlebitis in connection. The prognosis is favorable, my experience in a large number of cases including only two cases. The main difficulty is the slowness with which recovery is attained, it being a long time before the leg can be used, and perhaps years before complete recovery is reached.

The treatment consists in elevation to insure free circulation and in keeping the secretions of the body acting freely. The heart may be strengthened by the use of alcohol, or tincture of strophanthus, five drops every fourth hour. For the pain, nothing does better than hot leadwater and laudanum, or, in some instances this used cold is more grateful. When the swelling subsides, put on a bandage, and the patient should not be allowed to get up without wearing a support. Lastly, beware of manipulating or rubbing the leg, as this may detach an embolus.

Diabetes Insipidus.—Supposed to be due to malaria. This case presents several points for discussion in diagnosis. The patient is a man of twenty-four, who, seven weeks after an attack of malaria seemed to have subsided, was troubled by a disturbance of the urinary functions. At one time a catheter had to be used, for a time there was incontinence of urine and at present there is polyuria, eighty to ninety ounces per day being passed. This is accompanied by great thirst and a rather excessive appetite. The urine is clear, slightly acid, a faint trace of albumin is present, no casts, specific gravity 1010.

This is not a case of pure hydruria, as with the specific gravity at 1010 and nearly double the amount normally excreted, the urine cannot be said to lack in solids. It is rather an increase in the urine, then, with no diminution of solids. No thorough chemical examination has been made, and therefore we roughly make the diagnosis of diabetes insipidus. This condition occurs in hysterical people, though the condition then is rather one of hydruria. There is nothing suggesting that cause here, however. In some cases the nervous system is affected; then there is generally phosphaturia, which is not present here. Another cause is disease of the central nervous system, especially the pressure of tumors in the ventricles. There is no symptom of such involvement here, and we may rule that out. Finally, diabetes insipidus develops in toxemias, and we believe we have here an illustration of it following an attack of malaria. There are no parasites in the blood at present, but there were at the time he was treated for that disease.

An error in diagnosis is apt to be made in connection with these symptoms, as they may be found in the early stage of contracted kidney. We are not quite sure that we are not dealing with this condition here, although we think not. The symptoms of diabetes insipidus are well illustrated here—great thirst, greater even than in true diabetes, polyuria, subnormal temperature, great appetite, yet waste of tissues. The prognosis is never that of an easy cure. Some cases get well and others do not. Treatment, however, will do a great deal in most cases.

As to the treatment, diet does not influence the process as it does in true diabetes. The patient may be allowed anything that he desires and can digest. The diet should by all means be a *varied* one, however. As a rule, it is better to not give alcohol, as this is apt to make the

quantity of urine still larger. Light wines may be given instead. As to drugs, my experience is strikingly in favor of ergot. This must be given in as large doses as the patient will bear. The fluid extract can be given up to half drachm or drachm doses three times a day. Ergotin in the dose of two to five grains may be substituted, but I prefer the fluid extract. This must not be left wholly in the hands of the patient, as one woman for whom I prescribed it, and whom I only saw occasionally, kept on until she was taking two or three drachms three times a day, this resulting in the entire absorption of the mammary glands. At times ergot will fail, when nitroglycerin will be found the next best remedy. Another drug which does good at times is tincture of iodine in large doses. This I believe is due more to its action on the anemia present and the general condition than on the disease itself. Antipyrin is again disappearing from the list of drugs available in these cases. It has not sustained its reputation as well as promised at first. Finally, in these cases, it must not be forgotten to look after the cause as well.

Olfactory Sensorial Asymmetry—MM. Toulouse and Vaschide—The object of our researches has been to prove which was the most sensitive nostril, the right or the left, and our method was by the use of camphorated water. In the large majority of cases, olfaction is more developed on the left. Fifty-six left asymmetrical subjects represent 4.5 of the total number. All of them feel and perceive alike on the left. Of 8, 1 has olfactory equality; 2, a left asymmetry, but for perception only, and the remaining 5 have complete right asymmetry for sensation and perception. How can this asymmetry be explained? Van Biewliet ascribes the asymmetry to the right side in all the senses in 22 cases in 100 subjects, about 1-5. But his researches applied only to the muscular touch, vision and audition. The asymmetry of olfaction is on the left side. Why? The following is our explanation. The olfactory nerves do not intercross, their decussation is very incomplete, and each one is directed principally by its homogeneous hemispheres. The left brain having a physiological predominance, the inference would be the left nostril would have a higher sensibility. The decussation, admitted by Meynert, has not been positively proved. The cases of sensitive-sensorial hemianesthesia are cited in favor of this opinion. The majority are of hysterical origin, which is a psychiatry. There are, on the contrary, facts that seem to prove the non-decussation of the olfactory nerves. According to the researches of Ferrier upon the convolution of the lobe of the hippocampus, whose rôle in olfaction has been established by this author, it results that "destruction of the same parts is followed by loss of smell of the corresponding side." The opinion of Ferrier has recently been confirmed by a clinical observation of great value. M. Collet has reported the case of a subject of Bright's disease, who presented a tactile hemianesthesia and lateral hemianopsia of the left side, also a right anosmia, in which autopsy revealed cerebral softening of the right hemisphere involving the internal capsule, the two segments of the lenticular nucleus, and dipping into the depths of the frontal lobe. This author admits that, contrary to the auditory fibres, the olfactory fibres do not decussate, or at least the most important have a direct course, and make

their way to the nasal fossa. In a more recent work, he gives the opinion that "anosmia is usually located on the side of the cerebral lesion, that is to say, opposite to the paralysis." We have proved that tactile sensibility to ammonia, is on the contrary, in our cases, more developed on the right, the fibres of the Trigemini intercross. Then it is the left hemisphere that commands the sensorial superiority observed in the pituitary mucous membrane, and in the left nostril, whose nerves do not intercross. To sum up: Right asymmetry of olfaction is analogous to left for one sense, and for others, since they perceive by the right brain, our researches accord with those of M. Riewliet, who found 22-100 of the left. Finally we prove that the majority of the right were left or antidexter, in which case the right was the preponderating brain.

Paludism and Aortitis.—M. Laverau gave a reading from a work of M. Cardamatis, of Athens, concerning the relations of paludism and aortitis. Of the thousands of patients attacked by paludism, the author proved but one coincidence of angina pectoris and paludism, the patient abused tobacco. In another who had previously had intermittent fever, aneurism of the aorta developed, but it was due to arthritis. M. Cardamatis appealed to the experiences of his colleagues practicing in the most unhealthy parts of Greece. They were unanimous in declaring that paludism could not be ranged among the causes of aortitis.

Single Suture in the Radical Cure of Hernia.—M. Monod—It is well known that this method of sutures, due to Villar, and more or less modified by different authors, Duplay, Cazin, etc., gives very good results. I have practiced it for the abdominal walls, taking skin, muscle and peritoneum in a single suture. It was after proving its efficacy that M. Vanverts applied it to the cure of hernia after reducing the hernia, tying the sac, and protecting the cord, he embraces in the thread, skin, aponeurosis, and all he can seize of the oblique muscles. Of 20 patients operated upon, the result was perfect and persistent. Besides these personal facts, 36 observations of single suture successfully performed have been recorded, thus doing away with looking after lost threads, catgut upon the epiploon, etc.

Germ-Free Raw Milk.—According to Freeman (*Arch. of Pediatrics; Phila. Med. Jour.*), if milk is allowed to stand, and the cream rises and a separate analysis is made of the milk and cream, it will be found that with the rising of the cream about 99 per cent. of the bacteria are removed from the milk. This separation may be due to the better growth of the bacteria in the top layer from the better nutriment furnished by the cream and the greater supply of oxygen, or possibly to the carrying up of the bacteria by the fat globules as they rise. The practical bearing of this observation is important. If heating milk to 155° F. is injurious to it as an infant food, the bulk of the bacteria present may be separated by natural processes from the milk by allowing the cream to rise and then pasteurizing or sterilizing the cream and afterward mixing it with the comparatively germ-free raw milk.

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EGBERT GUERNSEY, M.D., LL.D. ALFRED KIMBALL HILLS, M.D.

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Not in truth that warm diligence, which to the busy man is its own reward when he follows with constancy and order the employment he was born for, but with the silent diligence of duty, which has the best principle for its foundation, which is nourished by conviction and rewarded by conscience.

—GOETHE.

"MATERIAL AND SPIRITUAL EVOLUTION."

IN the earlier nations of antiquity the Maya, the Egyptian, the Babylonian, the priest was also the physician, the care of the soul being so intimately blended with that of the body that what at a later day became two great professions was united in one. Within the last half century physiological and psychological students are bringing the professions of theology and medicine into such close relationship that their strongest arguments and most efficient work are based upon the same premises and the study of the same laws. The result is a manifest change in that dogmatic spirit so fierce during the preceding centuries of the Christian era, and under the stimulating influence of science and our progressive and enlightened thought a clearing away of the dark superstitions of former ages.

M. Henri Constant, a distinguished French *savant*, has recently, in a very eloquent work, voiced the opinion of some of the ablest thinkers in Europe and America, upon the dual nature of man in his material and spiritual evolution. These conclusions are of marked interest to the theologian and the physician, and worthy of their most careful consideration. M. Constant formulates his statement under several heads.

"A supreme intelligence rules the world. That intelligence, which we call God, is the conscious Ego of the universe. It is in the universe, for the universe, and through the universe that the divine thought is objectified.

"All creations develop themselves in an ascending series, without a break in the continuity. The mineral realm passes insensibly into the vegetable, the vegetable into the animal, and this, in turn, into the human with no sharply marked lines of distinction. There is a double evolution, material and spiritual. These two

forms of evolution run parallel and jointly, life itself being but a manifestation of the spirit appearing as movement.

"The soul is elaborated in the midst of the rudimentary organisms. That it might become what it now is in man it had to pass through all the natural kingdoms. A blind and indistinct force in the mineral realm, individualized in the plant, polarized in the sensibility and instinct of the animal, the soul tends unceasingly toward that conscious monad in its slow elaboration, until at last it reaches man. In the animal it was as yet in a rude state only, in man it acquires consciousness and can never again go backward. But at every step the soul fashions and prepares its material garb.

"The evolution of the soul is infinite, and each existence is no more than a page in the book of eternity. In every stage of evolution attained by the soul it has in itself the crowning synthesis of all the lower powers of nature, and at the same time it possesses the germ of all the superior faculties, power, intelligence, love, which it is destined to develop in succeeding lives.

"The soul progresses in its corporal and spiritual states. The corporal state is necessary to the soul until it attains a certain degree of perfection; it is developed by the tasks to which it is adjusted for its actual needs, and here it acquires special practical knowledge. A single corporeal existence would be insufficient for these ends. Hence it takes up new bodies as long as it finds that necessary, and each time it advances with the progress acquired in earlier existences and in its spiritual life.

"The soul has a fluid body, the substance or essence of which is drawn into the universal or cosmic fluid, forming and nourishing it as the air forms and nourishes the material body. This state of the soul is more or less ethereal, according to the worlds in which it finds itself and the degree of its purification. There is thus an intermediary between the soul and the body; an organ for the transmission of all the sensations. Those which come from without make an impression on the body, the intermediary transmits it, and the soul, the conscious and intelligent being, receives it. When the action comes from the initiative of the soul it may be said that the soul wills, the intermediary transmits, and the body performs the act."

But what is it that is evolved? The involutionary process, involving the continuity of identity and individuality, implies a corollary—the *involution* of that which is to be evolved. As this entity is changeless and persists throughout the mutation of matter it is inevitably substance of a higher grade. The grand process, therefore, is material evolution as the direct consequence of spiritual involution. The evolution of matter is contingent upon the influx of spirit. The author's idea of reincarnation, we presume, is the same as that taught by the Hindu sages and entertained by a large number of thoughtful minds throughout the Christian world, not that the soul ever loses its *ego*, its distinct individuality of the spiritual world, but at new birth its

thoughts flow into the infant soul fitted to receive and assimilate them, giving it with increased development, strength and wisdom gathered in its earth life or traits of character which may be the germs of vice and crime. But beyond all this there is always in every new born soul, if properly directed, an inherent power of conquering the evil and assimilating the good which may flow from spiritual sources. Whether true or not the theory is in harmony with the development, on the one side, of God-like ability, and on the other of the most debasing vice and crime.

A NEW REMEDY FOR HEART DISEASE.

WITHIN the past few years the attention of the profession has been directed, through articles which have appeared in various periodicals to the "*cratægus oxycantha*," as an efficient remedy in various forms of heart disease. The fresh berries of the "English hawthorn" are pounded into a pulp and macerated in thrice their weight in alcohol. In 1896 Dr. M. C. Jennings published in the October issue of the *N. Y. Medical Journal* an exceedingly interesting and valuable article upon the drug, giving his own experience in several well defined cases. The first case was a man seventy-three years of age. He was gasping for breath, with a pulse rate 158, very feeble and with great œdema of the lower limbs and abdomen. Fifteen drops of the *cratægus* was given with the effect of reducing the pulse in fifteen minutes to 126, with a decided gain in strength; in twenty-five minutes the pulse-beat was 110, the breathing easier and stronger. Ten drops more were given and in an hour from taking the first dose the patient for the first time was enabled to lie horizontally on the bed. An examination of the heart revealed mitral regurgitation from valvular deficiency, with great enlargement. The remedy was continued, and in three months he felt perfectly well. Any unpleasant symptoms which might occur from time to time were speedily relieved by the remedy. In some fifty cases in which the drug was administered the symptoms in those of organic disease were speedily relieved, and the functional cases, many of them of a most violent character, entirely cured.

Dr. Jennings says from experiments he has made on dogs and cats the drug appears to influence the vagi and cardio inhibitory centers and diminish the pulse rate, increases the mitro-ventricular pressure and thus, filling the heart with blood, causes an equilibrium between the general blood pressure and the force of the beat. The entire central nervous system seems to be influenced by its use; the appetite is increased and nutrition improved. The dose given was from ten to fifteen drops after meals and continued for three months, with occasional intermissions of a week or two.

Dr. Joseph Clements narrates in the *Kansas City Medical Journal*, 1898, his own case, where Angina Pectoris, from which he had suffered in frequent attacks

for twelve years, being entirely cured by ten drop doses of the *cratægus* continued for three months.

A writer in the *Clinique* states a case where a patient had been for several months under treatment with no permanent benefit. Examination showed the presence of hypertrophy with dilatation, displacement of apex beat, weak action, heart sounds prolonged, but no valvular lesion. There was an intermittent pulse, general anasarca, faintness and symptoms of collapse with the least exertion. Five drops of the tincture were given every three hours. In three months the dropsy had disappeared and the heart's action became strong and regular, with only occasional intermissions. She afterward bore a healthy child and is now comparatively well.

The writer says that he has used *cratægus* with uniform success in weak heart, accompanying or following grippe, diphtheria, or any disease of like nature, and believes it to be infinitely superior in weak heart and conditions of collapse to digitalis, strychnia, glonoin or the diffusible stimulants. The drug has never been thoroughly proved and its whole range of action is of course unknown, but the trials which have been made of it are quite sufficient to show that in it we have an exceedingly valuable remedy in a wide range of heart troubles, curative in many cases and palliative at least in nearly all, and that it is destined to occupy a high place in our *materia medica*.

MEDICAL WORK IN SOUTH AFRICA.

THE reports of English officers in South Africa speak in the highest terms of the efficiency of the medical department in the army. General Lord Methuen speaks of the manner in which the battlefield of Belmont was cleared of its wounded, as the most perfect work he had heard of in war. Mr. Chamberlin, in his great speech in the House of Commons, in defense of the war policy of the Government, paid a high compliment to the efficiency of the Army Medical Corps.

A new stretcher, designed by an American, and used by both the Boers and English, greatly facilitates the removal of the wounded to a place of safety. The stretcher is built on a framework, which rests on a pneumatic tired wheel. One wheel only is used. It is easily guided, somewhat on the wheelbarrow fashion, and can be wheeled along a towpath or any narrow way, and will carry a weight of 1,000 pounds, and folded up in a small compass when not in use. The invention enables the bicycle surgeons to carry stretchers with them on the battlefield. Strapped to their backs or next to the frame of their bicycles will be the stretcher itself. When needed, a wheel, released from the front forks, is attached to the stretcher upon which is lifted the wounded, who by the aid of but one man is speedily removed to the rear.

HARLEM HOSPITAL.

GROUND will be broken by the Department of Charities the coming spring for a new hospital, to be located in Harlem, probably in Lenox avenue, between 125th and 136th streets.

The hospital will cost, completed, about \$500,000, and will be constructed and fitted up on the most scientific principles. The suggestion has been made by several prominent physicians that the medical and surgical wards be divided between the two leading schools of medicine in the city, the "homeopathic" and the so-called "regular" school, the physicians and surgeons appointed from each school to have the entire control of their respective wards.

The bitter antagonism which for many years has existed between schools is rapidly giving way to a more liberal spirit, and a greater respect for the individual opinion of cultured minds, who have drank at the same fountains of science and reached their conclusions from equally honest convictions. Men of all schools now consult freely with each other to the mutual advantage of the patients and themselves. If this is the case in private practice why may not the same freedom, the same pleasant relations be extended also to the hospital, each physician or surgeon during his official service carrying out his own ideas and treating the case under his care in accordance with his most enlightened judgment. Physicians and surgeons appointed to a hospital staff should hold their appointments through their knowledge of the whole range of scientific therapeutics and their skill in meeting conditions in such a manner as will bring about the best results. All might not agree in judgment, yet there need be no warfare of schools, but earnest work as physicians based upon a study of the laws of health, the causes of disease and the action of remedial agents. We would respectfully suggest to the Commissioner of Charities that in making his appointments for the new hospital the question should not be one of school but upon individual fitness, based upon scientific standing, and that courtesy and liberality which is eager to utilize all good which a judicial mind can gather from the great world of thinkers. Day by day new revelations are being made and new facts elicited in every department of science, facts which bring into clear light the working of nature's laws and often compel us to alter conclusions formed with the utmost care.

In times past so great was the antagonism of schools, so deep seated and unrelenting the spirit of bigotry and intolerance that anything like justice could only be obtained through the establishment of separate institutions, where ideas and conclusions reached through different and independent lines of investigation could be carried out with the utmost freedom. But at the present day, with that advanced culture which is everywhere vitalizing the mind and binding together the world of science in closer union, is it wise, does it not rather retard progress, keeping alive animosities

which would soon melt away with the softening influence of enlightened thought, to keep constantly before us the same old differences which in the progress of the world have been almost obliterated?

There is no doubt a staff could be formed of physicians and surgeons which would represent the advanced thought, skill and culture of the entire profession, unsectarian, progressive, and utilizing the rare advantage of a large hospital in working out the problems of disease and cure from the standpoints of science and clinical demonstrations. It is not at all clear in our mind that the proposed hospital is a public necessity, but if it is demanded by the public we trust it will be founded on the enlightened thought of the present looking to the future rather than upon the traditions of the past.

THORACIC ANEURISM.

DR. ECCLES, in the January issue of the *West London Morning Journal*, calls attention to certain symptoms which he has noticed in four cases of Thoracic Aneurism at a stage before the usual symptoms pointing to that trouble had been developed. These symptoms were the coexistence of pain in the arm, in the back, between the shoulders, or just above them, after exertion, with dread, faintness or vertigo, under circumstances of fatigue, vibration, or placing the head in a bent-back position. These symptoms, he says, should make a suspicion of the conditions of the heart and great vessels, and should lead in this early stage to proper treatment.

THE Board of Health, of this city, desires us to call the attention of our readers to the importance of disinfecting the urine in typhoid fever cases thoroughly and faithfully. We have no doubt that the majority of physicians are fully awake on this subject and appreciate its gravity, but it will do no harm to remind them that those in charge of such cases, as nurses, are not always faithful in carrying out instructions as to such disinfection. It is hard to impress the ordinary layman with the importance of the subject. He probably does not know, unless informed by the attending physician, that there is such a thing as a typhoid fever bacillus in the urine, that it is very persistent, often continues for a long time and that it is highly dangerous to others.

In fact it is not safe to discontinue the disinfection until the microscope determines that there are no bacilli present. The care of typhoid fever patients, as respects the public health, is a great responsibility, and should not be treated lightly by those in charge.

Physicians will, of course, give explicit directions as to the modus operandi. The Board of Health recommends carbolic acid 1-20 solution, to be added to urine in the proportion of one-third its volume, as a cheap and effectual agent for this purpose.

A HOSPITAL FOR CONSUMPTIVES.

THE committee appointed to decide upon the wisdom of erecting a State hospital for consumptives in the Adirondacks have reported unfavorably, but have recommended the establishment of local hospitals in favorable locations in the different counties by the counties themselves. A prominent English writer attributes as a principal cause of consumption damp and badly ventilated houses, and thinks in cities as well as in the country with a dry soil or proper drainage and houses thoroughly ventilated and well protected from dampness one of the great causes of tuberculosis would be eliminated.

Many years ago Dr. Bowditch, of Boston, made a minute investigation of the locations in New England where consumption was most prevalent and fatal, and found that a large majority of cases occurred in damp localities. The fact has since been confirmed on a wider scale by information obtained through the Weather and Signal Service Bureau. If the local hospitals recommended by the committee are to be erected by the different counties in their own territory, of course the utmost care should be taken in the selection of the location upon dry soil, with the buildings thoroughly ventilated and made as free from dampness as possible. The region known as the Adirondacks, in the northern part of this State, is without doubt one of the most favorable locations, as to climate, for a hospital of this kind of any in this section of the country, but here, owing to the large number of lakes and water courses, there is a dampness, at times, highly objectionable to consumption and rheumatic conditions. Congress has recently set apart one of its old forts, no longer needed for protective purposes, with a large tract of land in Arizona as a sanitarium for its soldiers and sailors in whom consumption has been developed during their service in the army or navy.

The buildings are to be in the form of pavilions, with the free and abundant admission of light and air. The work on the ranch in the raising of fruits, vegetables, cereals and live stock will be of light character, and form an essential part of the treatment. An abundance of waste land could be obtained almost, if not quite, at Government prices within the bounds of the old American desert, which by easy irrigation could be made very productive.

It is a grave question, worthy of the consideration of our legislators, whether a portion of the money now called for in the bill before the legislature for the erection of a hospital in the Adirondacks might not better be applied for a consumptive home on an extended scale, where the climate and the surroundings are so admirable that, as has been shown by facts obtained from the Invalids' Aid Society, which has for some years been active in obtaining correct information on the subject, ninety per cent. of consumptives in its early stages could be cured. The easy labor upon the ranch would be so productive as to render

such a home in a great measure, if not entirely, self-supporting. If an appropriation is made for a consumptives' home or sanitarium we trust the location will not be confined to the Adirondacks but left to a competent committee for selection.

DETERMINATION OF SEX AT WILL.

IN the February 24 issue of the *New York Medical Journal* appears an article by Dr. J. Griffith Davis, in which the statement is made, supported by numerous cases, that the sex is governed by the period of conception, and is therefore under the control of the parents. It is a generally admitted fact that conception takes place in all but exceptional cases, in from three days before menstruation to fifteen days after. Conception is of very rare occurrence except in accordance with this rule. The position of Dr. Davis is that conception during the three days before and the eight days after menstruation always results in a female child, but from the tenth to the fifteenth the child is always a male.

If conception takes place on the ninth day twins of different sexes may be the result, but if it is a boy the boy is apt to be feminine in character, and if a girl of a masculine type. The fact that conception taking place before menstruation and from six or eight days after resulting in a female and after the eighth or tenth day to a male, has for many years been familiar to stock gatherers and the medical profession, the theory forming an editorial in the *Medical Times* fifteen or twenty years ago. It was noticed by the breeders of fine horses and cattle in Switzerland that conception taking place early in the heat always resulted in a female, and on the latest days to a male. It was said these facts were communicated to Napoleon III., who of course was most anxious to secure an heir to the throne, and the birth of the Prince Imperial was certainly in harmony with the theory. In our own experience, covering many hundred cases, the results, when the precise facts could be ascertained, seemed to substantiate the argument of Dr. Davis. The most careful observation of Dr. Davis has defined the precise limit of time more definitely than has ever been done before. The idea that the ninth day being a kind of neutral ground in which the results are uncertain is entirely new to us, and, if true, is of the utmost importance. Masculine women and feminine men do not make the most desirable citizens, and if the theory is correct their production can easily be avoided.

Dr. Davis accounts for this physiological fact that during ovulation the rate of vibration in the female must be higher rendering her positive and the ruling factor. Hence the result of sexual association near the period will result in a female; and *vice versa* when the rate of vibrations in the female is lowered and she becomes negative the male element will predominate and a male be the result.

A COCAINE PROVING.

A WEST INDIAN apothecary has contributed an interesting proving of cocaine, to the N. Y. *Medical Journal* of February 3, 1900. A study of this report ought to enable us to utilize the drug in the cure of disease. The substance of the statement is as follows:

After the first quantities, say between five and ten grains, were swallowed, I felt elated, full of life and vigor, cheerful, seeing everything in the rosiest of lights; my mind would clear up and things incomprehensible to me at other times would become plain and evident. I would be willing to and actually did undergo heavy physical and mental work which under normal conditions I could not possibly have accomplished. It is the most agreeable of sensations, because one feels perfectly and serenely happy. As the dose increased the symptoms would change gradually till the full amount being absorbed, the toxic symptoms appeared. I felt haunted, restless, morose, quarrelsome; had hallucinations of being persecuted and of impending evil; my heart would be pounding at a fearful rate, so that I could actually hear its throbbing; the eyes got glassy, with a fixed staring look; the tongue was heavy and unable to move at will; a terrible and incessant hacking cough shook the frame; the mind was obfuscated; there was inability to eat, with no feeling of hunger, and there were insomnia and an insatiable craving for alcoholic stimulants. These were the most terrible of the many symptoms. Under ordinary circumstances I can stand no strong drinks, and yet, under the cocaine influence I drank daily a bottle of brandy during those hours, and when no other drinks were at hand I often actually drank pure alcohol, such was the craving for it; and probably it was due to the cocaine that I never got so intoxicated as the amount of liquor taken would justify one in believing.

CRIMINALS AND THEIR REFORMATION.

THE problem of crime—how it appals one. Penologists struggle with it. Sociologists seek to ascertain its causes. They search for it through the laws of heredity, of environment and of poverty. Lombrosi in France and a score of able writers in this country have sought to unravel its mysteries and have given their conclusions to the public. The most recent and the most philosophical writer and investigator on the subject, August Drahts, the resident chaplain of the State Prison at San Quintin, California, in a recently published work on the "Criminal; His Personnel and Environment," takes the position that crime is largely a social disease. Its personnel is the bacilli that infect the collective organism. It is not an accident nor a manifestation, nor yet an incident that clings to the skirts of civilization notwithstanding the criminal increase during the past fifty years has been over three times as large as the average increase of population. It is the result of dis-

tinct causes whose genesis and remedy are being more and more explained by contemporary thought. The author's theory is that as every physical ill has some way its disturbing causes, so in the sociological and physiological sphere each moral functional derangement points backward to causation and forward to the remedy.

Dr. Hass, in the third volume of his *Therapeutics*, in speaking of the opium habit, evidently reasons along the same line, and forms similar conclusions, when he says: "I believe that when a man or woman becomes an opium fiend it will be found in the vast majority of cases that there is an original defect in that man or woman, which would have led them to form this or some other habit upon favorable opportunity. I know of no reason why all of us cannot steal, or forge, or take opium or hasheesh, or gamble, or lie, or do other things which the moral sense of civilization condemns, unless it is that we have within our brains and spinal cords that restraining force which physiologists call inhibition and the theologist calls conscience. If this line of reasoning is correct the conclusion is almost irresistible that when drug habits are formed or the individual rushes into vice or crime there is usually an hereditary or personal predisposition which makes the vice or crime comparatively easy."

The author does not consider that hypnotism is a serious factor in the perpetration of crime. Experiments have shown that the thoroughly normal man is not subject to suggestions of a criminal nature by hypnotism, and the abnormal man does not require them to induce him to commit crime. The subject, looked at in all its phases, is so broad, so far-reaching, covering the whole field of sociology, that it will be solved not in a century but in the gradual uplifting and purifying of the home until it becomes the fountain of purity and strength.

PRESIDENT ELIOT, of Harvard University, announces that its students may take its degree of A.B. in three years. This statement has an important bearing upon men who intend to study medicine, for it means practically a two-year college course, and four years in a medical college.

This is really no backward step, as some imagine, because the requirements for entrance are more difficult.

A candidate now must be more thoroughly fitted for the college course than formerly, and, no doubt, such a one will gain more in a three years' course than another who has not been trained in a preparatory school.

It goes without saying that there is a great difference in students in acquiring knowledge. Some will get more in three years than others will in double this time. It seems but fair that a candidate should be allowed to pass his final examination when he can, whether it is at the end of three years or more.

In many colleges the student is allowed to advance

only so fast as his weakest classmate will allow, and much valuable time is thus lost, to the injustice of the more fortunate man.

There should be grading of students in literary colleges, so that none will be retarded in their progress.

A properly prepared boy if reasonably bright, and an honest worker, ought to obtain a good education in a college course, extending over three years, and be ready for post-graduate study.

We are glad to see that old Harvard, who can afford to do it, has taken the step of granting a degree in three years to those who can win it. This offer will induce many a man to take the course who otherwise would not on account of the length of time required.

FASTING.

MR. RATHBUN, of Mt. Vernon, in a fast of forty days, reduced his weight about fifty pounds. No food was taken, but water was used whenever it was desired, but his diary showed that on any particular day when he drank a quantity of water his weight was increased. Mr. Rathbun's fast was from no desire for notoriety, but as a benefit to his general health. At the commencement of the fast the water showed albumin, which had entirely disappeared at the close. Since 1895 the family has taken no breakfast, and claim to feel better from the abstinence.

MONUMENT TO HAHNEMAN.

THE erection of a monument to the memory of Samuel Hahneman, in the city of Washington, for which funds have been in the process of collection for several years, is an assured fact. The bill authorizing the erection and appropriating four thousand dollars for the foundation is now a law. The design for the monument is very beautiful and the place selected by the Congressional committee is in one of the most attractive and most frequented parts of the city.

THE SAMUEL D. GROSS prize of \$1,000 for the best original essay, not exceeding one hundred and fifty pages, octavo, illustrative of some subject in surgical practice or surgical pathology, founded on original investigation, will be awarded October 1, 1901. The essays are to be sent to the "Trustees of the Samuel D. Gross Prize of the Philadelphia Academy of Medicine."

THE committee sent by the Johns Hopkins University to investigate the prevalent diseases in the Philippines have published their report in the *Johns Hopkins Bulletin*. The report contains but little additional information to what has already been given to the public. The most frequent and fatal diseases among Americans are the various forms of dysentery and other intestinal troubles.

BIBLIOGRAPHICAL.

Lea's Series of Pocket Text-Books, Edited by Bern. B. Gallaudet, M.D.

POTTS' NERVOUS AND MENTAL DISEASES. A Pocket Text-Book of Nervous and Mental Diseases, by Charles S. Potts, M.D., Instructor in Electro-Therapeutics and Nervous Diseases in the University of Pennsylvania, Philadelphia. In one handsome 12 mo. volume of 442 pages with 88 illustrations. Cloth, \$1.75, net. Flexible red leather, \$2.25, net. Lea Brothers & Co., Philadelphia and New York. February, 1900.

This work (the seventh volume of Lea's Series of Pocket Text-Books) furnishes a concise exposition of the most modern knowledge of its two separate but closely allied subjects. The histology and physiology of the nervous system have been discussed in a manner essential to the understanding of the pathological conditions and symptoms arising therefrom.

Full attention is given to matters of general symptomatology and methods of examination, and therapeutic measures both medicinal and non-medicinal are thoroughly discussed in the light of the most recent discoveries and achievements.

Although especially useful for students this work will prove of great value to practitioners, posting them thoroughly in the most recent points regarding a class of diseases which are exceedingly common and important, and often puzzling. The work is well illustrated and very moderate in price.

NEW, OLD AND FORGOTTEN REMEDIES. Papers by Many Writers, Collected, Arranged and Edited by E. P. Anshutz. Boericke & Tafel, 1900. \$2.00.

The material for this volume, the editor, who for many years has had the management of the publishing department of Boericke & Tafel, says, "was drawn from the journals of all schools, wherein a paper could be found that contained something not to be found in medical book literature and seemed to be honestly written. Only remedies, with a few exceptions, such as nature gives are included in this work." In turning over the pages of the book we find it full of valuable suggestions, based upon well established facts, which will prove of great value to the observing physician.

CROCKETT'S GYNECOLOGY. A Pocket Text-Book of Diseases of Women, by Montgomery A. Crockett, A.B., M.D., Adjunct Professor of Obstetrics and Clinical Gynecology, Medical Department of the University of Buffalo, N. Y. In one handsome 12 mo. volume of 368 pages, with 107 illustrations. Cloth, \$1.50, net. Flexible red leather, \$2.00, net. Lea Brothers & Co., Philadelphia and New York. February, 1900.

This volume of Lea's already popular Series of Pocket Text-Books gives in convenient form and concise language a compendious and well-illustrated presentation of the present status of Gynecology. The name of its author is a sufficient guarantee of the trustworthiness of the work. Entire originality is, of course, neither possible nor desirable in a work intended to summarize the best knowledge in a modern progressive branch of medicine. The reader has the benefit of the author's experience at every point which needed rounding out and illuminating, and the result

is a remarkably judicious and even presentation of the entire subject.

For the student Crockett's Gynecology will prove of great convenience and utmost value while the practitioner may well refer to it for the latest points on every phase of its subject. It is amply illustrated and exceedingly low in price.

GOULD'S POCKET MEDICAL DICTIONARY. Published by P. Blakiston's Son & Co., at one dollar, has been enlarged in its fourth edition to 30,000 words. The volume is bound in flexible covers, contains 837 pages, printed on excellent paper, in clear type.

The definitions are concise, yet sufficiently full to convey an accurate and thoroughly intelligible idea of the subject. For daily reference there is nothing better in the market, the larger dictionaries, however necessary they may be to the scholar and the writer, requiring less frequent consultation.

A PRACTICAL TREATISE ON THE SEXUAL DISORDERS OF MEN. By Bukk G. Carleton, M.D., second edition revised and enlarged. Boericke & Runyon.

We take great pleasure in welcoming this eminently practical treatise of 333 pages, which covers the ground indicated by the title in such a commendable manner. The student, busy practitioner and specialist alike can peruse its pages with undoubted pleasure and profit, and will be pleased with the concise, clear and forcible style, unfortunately too rare in medical publications. The work is clean cut and the operations and suggestions are up-to-date, and it is delightfully free from obsolete procedures and recommendations so often invented to complete the subject. We prophesy a great and well deserved popularity for this neat volume done in the publishers' best style.

W. F. H.

SURGERY. A Treatise for Students and Practitioners. By Thomas Pickering Pick. New York: Longmans, Green & Co. 1899.

This book is the substance of the lectures on surgery delivered at St. George's Hospital, London, and is the outcome of the experience of a hospital surgeon and teacher for nearly thirty years. The treatise is especially a record of the author's own experience, in which he has described the treatment he has found most beneficial, only incidentally alluding to other plans or omitting them altogether. The text is concise but rendered with such clearness of language as to be readily remembered.

A PRACTICAL TREATISE ON MATERIA MEDICA AND THERAPEUTICS. By Roberts Bartholow, M.A., M.D., LL.D. Tenth edition, revised and enlarged. New York: D. Appleton & Co. 1899.

The admirable work of Prof. Bartholow has passed into the tenth edition. In this edition accounts of the newer researches which contribute so much to modern therapeutics have been given more or less in detail, ac-

cording to their real value. A short article is given on prescription writing, and changes made at various points to correct errors that have been overlooked and to supply omissions of reading matter. To the older members of the profession the reputation of Prof. Bartholow as a most industrious worker and a clear, logical thinker, which has placed him in the front rank is thoroughly established, and some one of the several editions of this work will be found in most of their libraries. The younger members of the profession, as well as the old, will find in the fullness of information and the advanced thoughts of Prof. Bartholow great assistance in their professional work.

TWENTIETH CENTURY PRACTICE. An International Encyclopedia of Modern Medical Science. By leading authorities of Europe and America. Edited by Thomas L. Stedman, M.D., New York city. In twenty volumes. Vol. XVIII, "Syphilis and Leprosy." Wm. Wood & Co. 1899.

The subjects of syphilis and leprosy are very fully discussed in this volume, and include the most valuable researches and conclusions of modern practice. Edward Lang, M.D., Professor of Dermatology and Syphilology in the University of Vienna, whose clinics in the above diseases are the largest and most varied of any in the world, covers 370 pages in discussing acquired syphilis in all its various phases and complications, including its invasions of the different organs of the body, the bones, the muscles, the brain, the spinal cord and its local and constitutional treatment. In conclusion Prof. Lang gives the formula of nearly 150 prescriptions to meet the various conditions produced by the disease and expresses in the most emphatic manner the necessity of individualizing each separate case, and giving the remedy to meet present conditions. The distinguished English surgeon, Dr. Jonathan Hutchinson, devotes a short article to inherited syphilis, in which he speaks, under separate heads, of foetal syphilis, secondary and tertiary symptoms, affections of the eyes and ears, tongue, bones and teste lupas and phagedenic ulceration, tabes dorsalis, and inherited syphilis as the causes of idiocy. Dr. Hutchinson expresses the great importance of an early diagnosis, but adds, we know little or nothing as to the prophylactic influence of special treatment in reference to inherited syphilis. It is one of the most important problems which is left to the industry of future observers to determine whether prolonged treatment in the early stage tends in any material degree to prevent the development of the lesions which are prone to follow after long intervals.

The article on leprosy, covering 300 pages, is by Prince A. Morrow, M. D., of New York, recognized as one of the ablest experts on leprosy in this country. It is hardly necessary to say that the writer has presented the subject with marked ability, and that his article is an epitome of nearly all that is known in reference to a disease which has always been a *bete noir* to our profession.

BACTERIOLOGY IN MEDICINE AND SURGERY. A Practical Manual for Physicians, Health Officers and Students. By William H. Park, M.D., Associate Professor of Bacteriology and Hygiene in the University of Bellevue Hospital Medical College, New York. In one 12mo. volume of 688 pages, with 87 illustrations in black and colors, and two full-page colored plates. Just ready. Cloth, \$3 net.

Laboratory technique is given to guide the physician to make such examination as is possible in his own office, and to instruct him under what condition he can obtain help in laboratories.

Particular emphasis is given to such subjects as the chemical changes produced by bacteria, infection, immunity, the nature and use of protective serum, the diagnostic value of bacteriological cultures, etc., etc. To health officers the book will be of great service, as laboratory methods for the isolation and identification of the bacilli of typhoid, tubercle and diphtheria have been given with especial fulness. Illustrations in black and colors have been freely used. Besides a full general index, the volume includes a novel and useful "Index of Diseases and the Bacteria found in them."

A TEXTBOOK OF EMBRYOLOGY FOR STUDENTS OF MEDICINE. By John C. Heisler, M.D., with 190 illustrations, 26 of them in colors. Philadelphia: W. B. Saunders. 1899.

The want of a work of this kind has long been felt both by teacher and student in the study of human anatomy. In the arrangement of the work the author has not only presented a connected story of human development, but has made each chapter for the greater convenience of reference as complete as possible.

ANNUAL AND ANALYTICAL CYCLOPEDIA OF PRACTICAL MEDICINE. By Charles S. de M. Sajous, M.D., and 100 associate editors, assisted by corresponding collaborators and correspondents. Illustrated with chromo-lithographs, engravings and maps. Vol. IV. The F. A. Davis Company, publishers. 1899.

The novel plan of the cyclopedia, which includes a general article on each disease, bringing out the salient points of the literature of the last ten years and the fulness of information and general excellence of the article have naturally given it a very wide circulation increased with each additional volume. The present volume commences with an article on the diarrhoea of infants by Prof. Blackadu of Montreal, and ends with mercury and its compounds by the editor, Dr. Sajous. Among the notable articles included in this volume we notice an elaborate paper on malarial fever by Prof. James C. Wilson and Dr. Thomas G. Ashton; locomotor ataxia by Dr. W. B. Pritchard, New York; incubation, by Prof. F. E. Waxham of Chicago; diseases of the liver, by Prof. Alexander McP. Lecham of Tophia. We notice most of the facts are culled from the literature of '96, '97, '98, showing in their statements excellent judgment and a careful analyses of facts. The article on insanity by George H. Rohe, M. D., is one

of the clearest and most able presentations of this subject in its various forms we have seen. The four volumes of this great work have established an enviable reputation for industry and ability which will insure a large demand for this entire work.

CORRESPONDENCE.

THE "AMPULLA RECTI" AND THE "SPHINCTER ANI TERTIUS."

BY JAMES P. TUTTLE, M.D., PROF. RECTAL SURGERY, NEW YORK POLYCLINIC.

To the Editors of THE MEDICAL TIMES:

The request of your correspondent for some definite information concerning the above anatomical terms is not to be wondered at, inasmuch as anatomists and surgeons have disagreed concerning them for the past three-quarters of a century nearly. Van Buren (*Amer. Jour. Med. Sciences*), in speaking of the *third sphincter*, said writers "have cumbered the archives of surgery with a good deal of fruitless speculation concerning an organ to which anatomy and physiology have been equally unsuccessful in assigning either certainty of location or certainty of function," and research of the modern works upon these subjects reveals no greater knowledge concerning it to-day. As the term is frequently employed in medical literature, however, it will not be out of place to give your readers a brief review of what is known and said concerning it.

Third Sphincter.—Sphincter Tertius Recti.—The first description of this so-called muscle was given by M. Nelaton some time previous to 1837. Velpeau (*Treat. Anat. Surg.*, 1837, p. 39) says: "Nelaton describes a muscle which he calls the 'superior sphincter,' and which is situated about four inches above the anus, about the spot where strictures of the rectum are generally observed. It is formed of fibers, which are both united and fan shaped. Its depth in front is about six to seven lines, while posteriorly on the sides it is spread out about one inch."

The functions attributed to the muscle by Nelaton were:

1. To prevent fecal matter from descending.
2. During fecal passage to break up the mass and prevent too rapid movement.
3. To prevent incontinence after injury or removal of the external and internal sphincters.

Velpeau denied some of the functions, especially the last, attributed to this muscle by Nelaton, but accepted the anatomical fact of its existence as proven, only he declared the muscle to be composed entirely of circular or unstriated fibers. From this time to the present day there has been going on a discussion among anatomists, physiologists and surgeons as to the existence, location and functions of the *sphincter ani tertius*. Gosselin (*Arch. gen'l d. Med.*, 1854, p. 668), who divided the rectum into three parts, describes the muscle as forming the dividing line between the upper and middle portions, and questions seriously whether it does not contain voluntary as well as involuntary fibers. This point, however, is considerably higher up than that pointed out by Nelaton and Velpeau, and has not been confirmed by later writers.

Many writers had speculated pro and con concerning it, but no definite conclusion had been reached, and the subject had been practically dropped when, in 1882, Hyrtl (*Topograph. Anat.*, 1882, p. 162) took up the subject again. He reasoned from physiological phenom-

ena and surgical experience that such a muscle must exist. He claimed that continence of feces after section of the external and internal sphincters, and after extirpation of the lower end of the rectum, in old cases of prolapse, where these muscles have become atonic or disabled, and also in cases of malformation when the rectum ends in the vagina or urethra, proves the existence of a superior sphincter, and he located it at the level pointed out by Nelaton. His dissections, he frankly states, failed to confirm its invariable presence, which fact, however, he says, should not weaken the claims of Nelaton, as the instances in which it was absent may have been anomalies. His logic, though not without some force, is still quite vulnerable, and would hardly convince one of an anatomical conformation which dissections failed to verify. Moreover, Hyrtl claimed that the muscle was a true circular sphincter entirely surrounding the rectum, and this the best authorities are practically agreed is not the case. O'Beirn (New Views of Process of Defecation, Dublin, 1833), in describing the anatomy of the rectum, failed to note any sphincteric development at the point laid down by the above named writers. He describes, however, an annulus or contraction at the juncture of the sigmoid and rectum which he claims is "habitually" firmly contracted and closed. This he denominates the third sphincter, and attributes to it a very important rôle in the act of defecation. He holds that it is a true sphincter at this point, and that it retains the fecal mass in the sigmoid until almost the very moment before its expulsion from the anus. Few surgeons have accepted his views as to the act of defecation in full, although he is frequently quoted, but not a few have come to believe in the existence of some sort of a sphincter muscle such as he claims. By the use of modern instruments for examination the existence of a tonic contraction at this juncture is absolutely demonstrable—in the live subject. Anatomical specimens show also at this point an aggregation of the circular fibers on the concave side of the flexure of the gut, which fibers spread out upon the convexity, thus appearing fan shaped on the sides. The action of such a muscle, it is plain, would draw the gut inward at the point where the fibers are concentrated, practically, if not completely, closing it, and thus preventing the descent of any fecal matter from above. This is precisely what we see through the pneumatic protoscope, and owing to this contraction it is sometimes impossible to introduce the instrument into sigmoid. So concentrated are the fibers at this point in some cases that when contracted they appear like a thin mucous fold or valve, extending across the caliber of the gut. This agglomeration of circular fibers occurs to a certain extent at every flexure of the colon, and is in direct proportion to the acuteness of the flexure. Chadwick (Trans. Am. Gyn. Soc. ii. 1877.) has pointed out that two of them exist upon slightly different levels, one in front and one behind, just above the point where Nelaton claims to have found his superior sphincter. He claims that these are the muscles which the older surgeons saw, and that they are semicircular agglomerations and not true sphincters. He goes on further by experiments on himself, not a very reliable method, to prove that their action is that of detrusors, assistants in pushing the mass forward, and not sphincteric in the least. Logically one must admit some truth in Chadwick's conclusions, for if the agglomerations are of circular fibers alone it is reasonable to suppose that their nature and functions are the same as those of similar fibers elsewhere in the intestines, viz.: detrusors by peristaltic action. It is clear, however, that the very

contraction of a set of fibers which forces the mass below them further along also restrains and prevents from passing the mass that is above. Thus it will be seen that the muscles act both as detrusors and involuntary sphincters.

Sappey (Anatomies, Paris, 1874, Vol. IV, p. 272), the great French anatomist, confirms this semicircular arrangement of the fibers, saying, "One sees at the middle portion about the level of the base of the prostate or a little above a bundle of muscular fasciæ, which has been called by Nelaton the 'Superior Sphincter.' This muscle (?) is situated about 6-9 Cm. above the anus, and never completely surrounds the rectum."

Modern anatomists have, therefore, failed to confirm the assertions of Nelaton, Velpeau and Hyrtl, the majority of them not even mentioning the "Sphincter Tertius Recti." My own dissections and numerous operations upon the rectum have convinced me that, as described by Nelaton, it exists only in anomalous cases. Once I observed in a patient, about two inches above the internal sphincter, an apparently muscular ring completely surrounding the rectum. To sight and touch it was in every feature similar to the ordinary internal sphincter, and I believe it to have been a perfectly developed third *sphincter*, but such cases must be exceedingly rare.

As to the arguments of Hyrtl, though, something more is to be said. A certain amount of fecal continence after destruction of the sphincter muscle does not prove the existence of a third sphincter any more than a similar control in cases of inguinal anus proves the existence of a sphincter in the descending colon. Those who have had much experience in rectal surgery are aware of the fact that, when the sphincters have been removed there is nearly always a constant oozing whenever fecal matter is present in the rectum proper, and furthermore, when the "bowels are regular" in such cases, if the rectum be thoroughly cleansed at one stool there will be comparatively good continence until the next period for defecation. These facts, learned from a considerable number of excisions in my own practice, have convinced me that whatever control exists in these cases is due to the semicircular aggregation of muscular fibers at the junction of the rectum with the sigmoid.

Taking the *internal sphincter*, a perfect ring of agglomerated circular fibers, as a type, one is forced to conclude that there is no anatomical conformation higher up in the rectum to which the term sphincter could be properly applied. On the other hand, if we consider the semicircular aggregations as sphincters we must admit not only a third, but a fourth, a fifth, and even more internal sphincters. It seems to me, however, that such nomenclature would be confusing, and therefore I prefer to denominate them the *semicircular muscles* of the rectum, and thus discard the term "third sphincter" altogether.

Some confusion has arisen concerning the extent of the ampulla of the rectum, owing to the use of the term "third sphincter" in describing it. If we omit this it is simple enough.

Ampulla Recti (F. Ampoule rectale) is a term applied by anatomists to the flask-like expanded portion of the rectum. It is generally closed in the normal state by the falling backward of the anterior wall upon the posterior wall of the gut. This closure is not due to muscular contraction but to pressure of the pelvic organs and the convolution of the sigmoid and small intestine which fall down into Douglas cul de sac when the rectum is empty. The ampulla is capable of great disten-

sion. Its widest portion is below, and it gradually grows narrower to the juncture of the sigmoid with the rectum. It begins 2 to 3 Cm. from the anus and extends upward 9 to 11 Cm. Its circumference varies from 8 to 16 Cm. at various points, and in different individuals.* Its function is that of a reservoir for the fecal mass when it has once been expelled from the sigmoid flexun. It is in fact an overflow or complementary storage house for the fecal contents of the bowel.

42 West 50th St., New York.

TAKING COLD.

49 OXFORD ST., CAMBRIDGE, MASS.,

Feb. 25, 1900.

MY DEAR DR. SPIERS:

I am much obliged for the copy of the second edition on Tuberculosis. It is the first volume, however, for which I am unceasingly grateful. "Ah, indeed," I said to myself, as I read it, "My lord, the Doc., certainly makes fine mincemeat out of the infidels on the other side, but is there anything in his own theory."

I used to be grievously troubled with colds, and as I thought I would see what suspension of atmospheric influence might have done to the precedent state there, for if a precedent state is good for raising tuberculosis bugs, perhaps it also might explain a readiness to take the ordinary cold. Accordingly I began putting my faith into works; made it a point to breathe deeply when in the open air, got outdoors as much as I could, and whenever I rode on the electric, as I frequently did, stood on the front platform. Now, behold the beautiful result! I, who formerly began to sneeze and blow my nose whenever the thermometer changed five degrees, have not had a cold for nearly a year, and that in spite of the fact that I have paid little attention to anything in the way of preventives, except as to deep breathing. Formerly I dared not go out-of-doors after December 1st to the beginning of April without an overcoat; now I hardly wear one half the time. Moreover I have got my feet wet and done all the other things that ought to produce the "epizootic" in the third degree, and yet with all these sins I have had no colds, nor even an attack of catarrh, to which I was formerly subject. And all this good record is due, I believe, to careful control of atmospheric influence—as laid down in the gospel, according to H. Spiers.

As ever, yours

CURTIS H. WATERMAN.

Mr. Waterman is a Ravenna boy—a graduate of Oberlin, O.,—at present a Law Student of Harvard, second year. He has a host of friends in this community, and is known as a Christian man of worth and ability. The letter speaks for itself. In 1876 and '7, while attending lectures at the Ohio Medical College, of Cincinnati,—now part of the University of Cincinnati—Prof. Roberts Bartholow, in his characteristic way, told his students at the daily clinic, why he never attended church. He said in substance: "On Sabbath morning a great fire is started in the furnace of the church. By means of the current thereby established the air from the basement is pumped into the audience room above. This air has remained close or

stagnant during the entire week. It is now utilized by the Christian worshippers, and it acts on them in various ways. As a rule the hearers become dull and listless, and the preacher is voted stupid. The impure air deadens every mentality. For myself it acts in a somewhat different manner. I invariably take cold. What is it to take cold? A short time since an article appeared in an Eastern medical journal, in which the author stated taking cold is due to a microscopic organism.

It enters the mucous membrane—more particularly of the nasal fossa—and thus excites an irritation. This irritation causes the sneezing and cough. Treatment: An atomic spray of a mild solution of Bichloride to destroy the bacteria. If this be used in time there is no cold. The remedy destroys the cause. I have a party in mind who invariably takes cold in autumn or winter, whenever he gets his feet wet. Cold extremities alone do not cause this. There must be dampness as well. It seems the wet feet cause a turgescence of the mucous membrane, a headache and increased secretion.

A nasal toilet is beneficial. Germicides, in this case, it seems to me, are uncalled for.

For my lifelong I have been subject to taking cold. One cause, in my case, is more productive than all others combined. Should I sit near a door or window, where there is a draft or current of air—summer or winter—the cold comes. Should this current of air be avoided colds are seldom and far between. Perhaps the germs of cold linger near these currents. Who knows? How do colds come? The air of a church or hall is cold and damp. No fire has been kindled. Singers meet for practice or rehearsal. They take cold. A sudden change in temperature occurs. To-day it is up, to-morrow down. Colds follow. One remains long at the desk or in the office after the usual time. The fires are out or low. He takes cold. Another changes his dress or wraps for the evening or a ride. He suffers from a cold. Still another is exposed to a drenching rain on a long ride. The entire surface of his body is chilled. He catches a cold.

The hall or church is crowded and the ventilation is ill or decidedly poor. Many suffer from colds. If we analyze the condition it will be seen a multiplicity of reasons are assigned as causing the cold. What is the philosophy of taking cold? I think all will admit that when a cold is taken there is usually some depression of the vital forces. This depression may be caused in many ways. Let us look deeper than the outward manifestation. What is the condition of system when this cold is taken? Is it not usually one of depression? Are we living up to our highest standard of health? Do we not oft, from mere laziness, shirk the work nature has deigned us to do? Where do colds occur? Are they not on mucous surfaces? How many breathe pure air? How many have perfect inspiration and expiration? How many have diseased mucous tissue? Not until we clearly understand the normal condition and are willing to strive for its attainment can we expect to enjoy the perfection of health nature has designed.

If we breathe impure air it is an improper food for us. Nature must suffer. She suffers in manifold ways. There is always a depression of the vital forces.

Have we diseased mucous tissue—more especially of the lungs—either by heredity or acquisition—the air may be pure, yet nature suffers in that aeration is imperfect. The suffering is just as manifold and severe

*Measurements taken from Hartmann and Guenn.

as in the previous case. There must be pure air and normal mucous tissue in order to have pure blood—the life and vigor of the system. If there be both an impure atmosphere and diseased mucous tissue it takes no philosopher to determine the result as to perfect health.

What about perfect inspiration and expiration? On an average not more than one-fourth of the civilized human race have perfect inspiration and expiration. Why not? Our mode of dress and life is such as to exclude perfect inspiration and expiration. Our manner of living is such that a perfect atmosphere is next to an impossibility. Our violations of law are so flagrant that healthy mucous tissue is the exception. What is the result? One-half the human race are dying for want of knowledge—or from ignorance. The other half are dying with this knowledge from want of common sense—or ignorance in its application. Which is preferable, to die knowing, or not knowing, the cause of death?

It seems to us that those not knowing are the least reprehensible. "Ignorance is bliss." Our lungs were made for pure air. We should have it. The smoke nuisance of cities, as elsewhere, will never disappear until soft coal fires burn no longer. Pure air was made for our lungs. We should have it in our shops and homes and conveyances. This is never seen until we have perfect ventilation. At present we have knowledge, but only in theory. Ill ventilation is seen on every hand. This all can affirm. Our lungs were made for air. We should constantly inflate them and receive it. Without this perfect inflation there is no perfect aeration. Without perfect aeration there is no pure blood. *Pure blood is the life.* The lung tissue should be most perfect. Its perfection is in part a factor of heredity, environment and use. Tell me not heredity is environment. Heredity in lung as limb is received. We may improve its texture by care or use. We can not change its organic structure. Heredity always tells.

If then the writer clearly apprehends the subject in hand, there are two forces constantly at work—or perhaps better, there are two conditions always found: An undue exposure and an undue depression on the part of the patient.

The exposure has been spoken of. The depression should be made more clear. Among the civilized suspension of atmospheric influence from causes named is the rule and not the exception. We are living on a lower plane than we should. Some from lack of exercise, others from want of pure air, still others from hereditary or acquired influence, &c., are suffering from suspension. Deep breathing or forced inspiration is the remedy for all this. Of course deep breathing can not change the lung tissue, but its use in all cases benefits the patient if the tissue be already in health. If diseased, care should be exercised. It should also be remembered physical exercise is deep breathing.

To him then who is subject to frequent colds, try the experiment of forced inspiration and expiration while in the open air. It fills the air cells and forces out the residual air. In this way the chest is enlarged, the blood is made more pure, the system is invigorated and in truth the—otherwise—patient is placed on a higher plane. He is simply put in better condition to resist exposure.

H. H. SPIERS.

Friday, Mar. 9, '00, Ravenna, O.

HOSPITAL REPORTS.

A CLINICAL LECTURE.

BY F. P. HENRY, A.M., M.D.,

Prof. of the Principles and Practice of Medicine at Woman's Hospital, Phila., Jan. 9, 1900.

I. PNEUMONIA OF CEREBRAL TYPE.

The case before you seems to be on the mend, if we may judge from the temperature chart. The history is that the child is fourteen months old, was admitted to the Hospital January 6, two days ago. On admission her temperature was 105.2-5° and pulse 154. Of course the pulse in a baby is not so significant as it is in an adult, but even for a child this is rapid. The parents are both living and in good health.

The birth was difficult, the baby being delivered by instruments; and another point against its physical well being is that it was weaned at seven months. It was then fed with bread and milk and corn starch and "table food"—whatever is going. It seems to have been well until one week before its admission here. Then the mother noticed that its hands and feet were cold, its legs weak, and the child was languid and would not play. In the evening while apparently asleep its eyes were open and staring. The child's temperature was raised and there was vomiting. Then the parents noticed that it had not been sleeping well and that it had been thirsty. On January 3 the family physician lanced the gums over four teeth—it has now twelve teeth. There have been no convulsions. It has a cough which is rather loose; there is constipation. Since this first elevation of temperature the fever has been greater, about 106°, and the pulse has ranged in the neighborhood of 160. The temperature has gone steadily downward and is now nearing the normal line. I don't know whether the child is better in reality, but I should judge so. The pulse is now nearly 160.

This child has a double set of symptoms, of great interest. It showed at first signs of pneumonia and yesterday there were many of the signs of cerebrospinal meningitis. It was rigid; I will not say "as rigid as a board," nor do I say when a patient shows a dusky hue that he is as "black as my hat." But its limbs were rigid, the feet were extended, and the toes were somewhat flexed at the ends, forming a sort of talipes equinus. I do not know whether the child had headache or not; it screamed when disturbed; and it moved the head from side to side. There has been no opisthotonos, but there has been orthotonos.

There still exists rigidity of the muscles. The toes are rather incurved and the thumb is drawn inward, as it is so apt to be in cases of this kind. The child is rather a nice healthy looking baby. At the left apex the breathing is harsh, I would hardly say bronchial. I have not gone over every inch of the chest, and I have not thought right to do so. Is this now a case of pneumonia of the cerebral type or a genuine case of meningitis, due to the same organism, the pneumococcus? It is hard to answer. The extreme rigidity, the lateral motion of the head, the vomiting, the high temperature give us marked signs of meningeal inflammation. You may see this condition often and at the autopsy you find nothing but a congestion. I am almost inclined to think that this case is one of intense congestion rather than any meningeal inflammation with exudation of lymph. The pupils are even; there is no inequality, no strabismus. The child is a great deal better and leads me to think that it has a pneumonia of

cerebral type and is going to recover. I believe that under the measures of treatment pursued it is going to get well.

What have we got to consider in the diagnosis? We think naturally of cerebrospinal fever. There is no epidemic now or we should at once call this such a case. We think of tubercular meningitis where there are convulsions and strabismus. We think also of the possibility of ear disease. There is none in this case. In cases like this dependent on pneumonia the condition is usually one of intense congestion around the cord and meninges. From a bacteriological standpoint one might say this was either a case dependent on the diplococcus intracellularis or a pneumococcus infection or a tuberculous one or a streptococcus infection with inflammation, etc. I do not think the bacteriological standpoint a practical one, because this might be caused by any one of these organisms or by almost any other.

The method of treatment has been largely with ice to the head and body, and ammonium chloride and bromide of potassium internally. The bowels have had occasional purges with small doses of calomel.

II. THORACIC ANEURISM CURED.

The next is a remarkable case, a patient whom I treated many years ago at Philadelphia Hospital. She was under my care in 1888 with marked signs of thoracic aneurism. Now she shows them in much less degree. There was another patient there at the same time who would not submit to the strict rules for diet, while this patient did submit. No wires were pushed in nor horse-hair. The case was treated constitutionally and now for ten years this woman has been able to support herself and has done hard work, and the aneurism is not only intact but the woman is strong.

The Tufwell treatment, practically a starvation treatment, consists in feeding the patient on two ounces of bread and two ounces of milk for breakfast; three ounces of milk and three ounces of meat for dinner, and the supper is the same as the breakfast. In addition, potassium iodide was given and the patient confined to bed many months. The other patient could not stand it and succumbed. It may be I am giving this woman too much credit for resisting the pangs of hunger. There are people with a little appetite and people who live on what would be a small fraction of a meal for me.

You can see this aneurism. It projects still decidedly. It is on the left side, showing that it is not in the ascending portion of the arch. The pulsation is decided, though I do not feel any thrill. It has been much in that condition for years. There is a faint systolic murmur. There is no rule at all about what you will hear over an aneurism. The left pupil is larger than the right. I think the right pulse is fuller than the left, but I cannot make out that there is any retardation between the two pulses.

There are a great many other points about this case. She has a brassy cough which you might call a nervous cough, perhaps indicative of paralysis of one of the vocal cords.

III. CHLOROSIS.

This is a patient, one of a class of which we have had many examples. A few weeks ago she came before you with a high degree of anæmia and when I saw her yesterday I did not recognize her so great was the improvement. On the 11th of December her blood corpuscles numbered 2,181,250, the whites about 7,000 and the hæmoglobin was only 18%. The red cells were 44%, while the hæmoglobin was only 18%. You recollect perhaps the appearance of pallor and anæmia

to the last degree; and now there is 65% of hæmoglobin and 4,900,000 red cells or 80% of the normal. I agree that the color test of Gowers and others is too high.

The treatment has of course been iron in some form or other—citrate of iron, and Fowler's solution also.

Here is another patient in the same state. She is from Italy, fifteen years old, has a normal temperature and rapid pulse. She complains of pain in the back and left side, and also a girdle pain. She is constipated and suffers from nausea. She has been working in a sweat shop. There is decided enlargement of the thyroid gland. The red blood corpuscles number about four million and the hæmoglobin is thirty-five per cent.—a typical case of chlorosis in its early stages. She is being kept on Fowler's solution and Blaud's pill, three times a day, also peptomangan. I have no doubt she will soon be quite well.

IV. PERIPHERAL NEURITIS.

Here is a very curious case, an extraordinary case. Her history is, that she is thirty-two years old, lives in Camden, is a housewife by occupation and was admitted to the Hospital November 30. On admission she gave the history that her father was dead and her mother living and well; of her brothers and sisters one died of typho-pneumonia, two of consumption, and one from some fever at an early age, so the family history is not very good. She had the usual infections of childhood in mild form. She has menstruated regularly since beginning, and lately with too great frequency, but I do not think that has any material bearing on the case.

When she was admitted she had a pulse of ninety-four and a temperature of 100.4°. In the latter part of the summer she had a pain in her right foot. This subsided, and later a pain appeared in her right side over the liver, extending to the back, later pain appearing in both legs and both arms, which she described as a dull heavy ache and for the last five weeks she has lost power in both arms and legs, though retaining sensation. She has the sense of heat and cold. Her sensory nerves are much less affected than the motor. At times there is a dull pain with tingling of the finger tips. Her pains are much eased by friction. They shoot down from the knee joint to the ankle and toes, and are more severe in the lower extremity. She is a very nervous woman and starts at slight noises. She says her shoulder, elbow and knee joints are stiff, and says the abdomen has been swollen at times. If there had been an accumulation of fluid it would have a bearing on the diagnosis. There is no cedema of the feet; there is some irritation of the bladder, and this is practically the woman's history.

There are some bruised spots on the right calf. Voluntary extension and flexion of the ankle are absent; the knee jerk is absent, and there is wrist drop. She has signs of Bright's disease, the urine showing at first a heavy ring of albumin, no sugar, granular hyaline and epithelial casts, free epithelial cells and pus cells. The specific gravity is 1.012. There is no albumin now nor sugar. From the blood count, the corpuscles number 4,600,000 and the hæmoglobin is 65%, more red corpuscles than I should have supposed from her appearance. Both retinæ are pale. She is perfectly helpless, paralyzed in all four extremities. You don't often see such perfect helplessness. The lesions which could produce this would be hæmorrhage on either side of the brain, or into the cord high up on both sides, and of course there is nothing of the sort. Her symptoms are all peripheral, creeping up from below. There is nothing hysterical in the case, I am sure, or there would be areas of anæsthesia. The beginning of the thing is not

like that. There is no question in my mind that it is a case of peripheral neuritis. The reaction to electricity has not yet been tested, but it is pretty safe to say that the reaction to faradism will not be obtained. There will be a response to galvanism, but not in the same way as in healthy tissue.

Now what is the cause of it all? I dwelt on the fact that the abdomen had been swollen. If there had been oedema of the lower extremities and if she had come from Brazil, or South America elsewhere, or China lately I would have thought of beriberi, which is attended with dropsy in one form of the disease. We might think of alcoholic neuritis, but there is no history of alcoholism here and we have to depend on what they say about it. And I do not think there is so much pain as there is in alcoholic neuritis. I think it is not neuritis due to drugs. The gums show no blue line, and she has not been exposed to the action of lead. I have seen this condition result from arsenic poisoning. I have seen only one case from Fowler's solution and then it was a question whether it was actually due to that. It was an old woman with pernicious anæmia, and while she was taking arsenic she developed the same condition that we find in this woman. Anæmia itself, I think, would produce the neuritis without the arsenic. She has not had diphtheria—at least there has been no involvement of fauces or eyes where the paralysis would have developed first if diphtheritic. There is a general acute polyneuritis, a fever running an acute course. She has had no fever that we know of.

Of course the question is what to do for her? If these muscles do respond to electricity feebly I would employ that; if only to galvanism I would use that, and I would have her rubbed every day, and strychnine given in pretty good doses, and arsenic if she had not already been taking it. But we will let arsenic alone. There seems to be no indication for iron. Keep her in bed, give a non-stimulating diet, and certainly no alcohol.

Landry's paralysis is a paralysis which creeps from the toes upwards, and one I had believed was inevitably fatal. But now they claim it is nothing but a peripheral neuritis, and not necessarily fatal. I recollect seeing a boy with Landry's paralysis die at the Episcopal Hospital, with his senses unclouded, from paralysis of the pneumogastric nerve. I don't see how a peripheral neuritis is going to do that. It must involve the terminals of the pneumogastric nerve to make that theory complete. The books will not give you any satisfactory information in regard to Landry's paralysis.

I think this woman will recover from this condition.

V. GASTRIC NEUROSIS.

Here is another queer case, one of a kind which to the physician is often very exasperating. She was admitted November 25. She had symptoms referable to the stomach. She has been vomiting her food, was nauseated at the mere sight of food. She has a tenderness over the epigastrium and over both iliac regions. The heart and lungs are normal and there is nothing wrong found on pelvic examination. She has a little albuminuria and that reminds me that the other case might have as its cause renal trouble. The symptoms point more prominently to the stomach than to anything else. She was given a test meal and vomited that, and the material vomited was found free from hydrochloric acid. Of course there had not been time for hydrochloric acid to make its appearance. But on another occasion the test meal was given and the test for hydrochloric acid more

elaborately carried out, and I am informed that it was absolutely absent.

The woman has a great many nervous symptoms besides tenderness on pressure. It is a case then of acidity, and it was suspected that on account of the infrequent vomiting there was some organic trouble. From the tenderness which is entirely superficial I should judge it was entirely nervous. In one form of the neurosis the acid may be entirely wanting. Very lately there have been found cases where there was even no gastric secretion at all, and in a case like this where there is simple acidity I would give hydrochloric acid and bitter tonics—a half ounce of infusion of gentian with ten minims hydrochloric acid three times a day.

VI. RENAL COLIC.

Dr. C. sent this patient to us. There are here some accounts of health decidedly below par and the passage of calculi. The woman is twenty-six years old, married, had one child, had a miscarriage in April, since when she has never been well. She has lost her appetite, been nauseated in the mornings, and had occasional diarrhoea. She has had pain in menstruation during the entire period. About two weeks ago there was a sudden aggravation of these pains. She traces the course of the ureter for the direction of these pains. Pain was relieved immediately after the passage of the stone. I don't know whether it is oxalate of lime or uric acid—I think oxalate of lime. It looks as if there were a favorable prognosis, as if it had been living a solitary life in the pelvis of the kidney; it is not faceted off.

I have not had many cases of renal calculi in women. I think it is rather rare for women to have renal colic. They are more apt to have hepatic colic.

You see notices every now and then of how this water and that water will dissolve calculi. I don't believe a word about it. An alkaline of our own manufacture may be much better. The uric acid calculus is soluble, but there is nothing to dissolve the oxalate of lime calculus.

The pain of the colic is one which nothing but morphine will relieve; and nothing but morphine under the skin, or else you will have to give it in doses that are not safe. One-eighth to one-quarter of a grain will have no effect, whereas one-quarter grain beneath the skin will relieve very decidedly an attack of renal colic.

A CLINICAL LECTURE.*

BY GEORGE L. PEABODY, M.D.,

Visiting Physician, New York and Roosevelt Hospitals,
New York.

Case 1. Sequelæ of Typhoid Fever.—I first wish to show you some sequelæ of typhoid fever not very unusual. I will not read the patient's history at length, because it is a perfectly clear and unmistakable history of typhoid fever. The patient came into the hospital on the 31st of August with a temperature of 104° or 105°, and his date of entrance was supposed to be the 10th day of his disease. The temperature fluctuated during the first week in the hospital between 102° and 105° and 106°. He received the usual bathing and the ordinary routine treatment. During the second week there was the tendency for the temperature to drop and the usual condition of affairs. The blood showed the Widal reaction. During the third week—the 30th day of his disease—the bath was given very infrequently, often the patient not getting one in twenty-four hours. So far as the

*Held at the New York Hospital November 11, 1899.

fever was concerned it showed that he made a good convalescence. He is now in the 80th day of his disease. The temperature has been normal for one week or more. During that time he had several complications. In the first place he suffered from deafness, which is a very common symptom in the early stages of typhoid fever, and this symptom often aids us in making a diagnosis. This deafness developed on the 12th of September. On the 13th of September it was discovered that he had occasional pain in the chest and consolidation of the right lower lobe of the lung. The skin became jaundiced. The deafness disappeared in ten days. On October 24—two weeks ago—there appeared pain in the region of the distribution of the ulnar nerve of the right hand; there appeared not only pain, but the sensation as though ants or small insects were crawling over that part of the hand. The same deafness again developed in the left ear, but the examination was negative; the effect of swallowing upon his deafness made us believe that there was a more or less disturbance in the hearing from a catarrhal condition of the Eustachian tube. On the 28th of October there appeared a periostitis of the right tibia, which did well under proper treatment. What I want now especially to show you is the extent of the disturbance over the course of the ulnar nerve of the hand on the right side. The pain is distinctly shown to be over the course of the ulnar nerve, i.e., the whole of the little finger and the ulnar side of the ring finger. I have here two tubes, one containing hot and the other containing cold water; over the distribution of the ulnar nerve the patient cannot distinguish one from the other. This distribution of the disturbance is very marked and localized. The condition of neuritis following typhoid fever is not very uncommon. It is commonly manifested by pain and tenderness of the toes and foot and occasionally of the hand. I think it is more common to have it under the method of bathing with cold water, although we have greatly modified the seriousness of typhoid fever with this treatment; we now seldom have such grave symptoms when the disease is treated by cold water. It is now almost an entirely different disease from what it was before the introduction of cold water baths.

Case 2. Typhoid Fever, with Demonstration of the Administration of the Bath.—The next patient I show you is a man 24 years of age, the manager of a restaurant by occupation, and therefore one who has a great opportunity of diffusing the disease. He has had scarlet fever, measles, whooping cough, malaria, etc., and drinks from two to three cups of tea a day. Two and a half weeks ago he had headache, nausea, anorexia, which continued up to the time he was admitted in the hospital. He had occasionally chilly feelings, and, at night, slight fever. On November 4 he was obliged to go to bed on account of the increasing weakness. His bowels have not moved since the 5th. There is some pain in the legs. There has been no epistaxis. His appetite is poor. His chief complaint is the weakness and backache. He was admitted at 11:20 A. M., with a temperature of 104°, and respirations 20. He appeared well nourished; his tongue was white and coated and red on the tip. The lungs and liver appeared to be normal. The spleen could be felt below the free border of the ribs. The abdomen was normal, as were the extremities. When he came in his temperature was 104°, and it went up to 105° at 8 o'clock; he was then placed in the bath, whose temperature was 65°; he was bathed for ten minutes. The patient's temperature dropped to 103°, and it did not rise to the bathing point—102.6°—until 5 o'clock the next morning, when another bath was given, and the temperature dropped to 102°. Not to be

too prosy, I will state that on the 5th, 6th, 7th and 8th he did not get any baths. To-day, at 5 o'clock, he had a temperature of 104°; a bath was given and it dropped to 101°. Examination of the blood on the 7th of November showed no Widal reaction; again on the 10th it was negative; there was a slight reaction, but not enough to make it diagnostic. That is quite often the rule; we should not expect to get Widal's reaction early in typhoid fever; do not be misled by it; you are to look for it on the 17th or 18th day, or longer, but not as early as we have done in this instance. As to the importance as a diagnostic sign its presence is not proof positive because there are other diseases than typhoid fever where we may get this blood reaction. Therefore, do not forget that its absence is not proof positive against typhoid fever; although it is extremely likely to be present when we do get it.

Why I brought this patient in here is to demonstrate the method of bathing these patients. Please notice that this patient's tongue is red and coated, and it is a characteristic tongue. Bathing is done once in three hours when the temperature is above 102.6°. This, you see, is an ordinary bath tub, filled with water, whose temperature is 65°; the patient is placed in the tub. Before placing him in his head is wrapped around with a turban in order that we may pour cold water upon his head with less inconvenience to him. This turban prevents the water from dripping down upon his face and getting into his eyes and nose, which, as you swimmers all know, is so disagreeable. Also, there are placed in the patient's ears pledgets of cotton to keep the water out. Ear doctors say that if water is allowed to gain entrance into the ears we are likely to have develop an otitis media—such as may occur from diving. As to stimulation, if he has been taking whisky regularly he then receives a dose just before going into the bath. Going into the bath is no indication for the taking of stimulants. This patient is getting one-half an ounce every three hours; his pulse is soft and compressible. Frequently after taking the patient out of the bath he shivers a good deal and the swallowing of hot liquid food is then very grateful. Remember the bath must be given without the assistance of the patient; he should remain perfectly passive and lifted into the tub, and while he is in the tub friction should be applied except to the abdomen. It is very important that friction should be applied. The application of friction was not so often done until a certain doctor had typhoid fever, and while in the bath he asked that friction be applied, which added very much to his comfort. This rubbing is not entirely for the patient's comfort, but largely to stimulate the circulation by physically causing the blood on the surface to be propelled on more rapidly, in order to have an effect upon the temperature in the interior of the body. Now this rubbing process is kept up for a period of ten minutes of course in the absence of anything that complicates the case. Do not be misled by the feelings of the patient and his assertions. Do not be misled by slight manifestations of disturbances of circulation; the lips getting blue is no indication for stopping the bath. After the bath there should be applied hot bottles. But do not stop the bathing simply because he is shivering. An experience extending to 100,000 cases justifies us in using the best routine method in the treatment of typhoid fever, such as the bathing with cold water. I do not regard menstruation as a contra-indication; or the super-vention of a nephritis; nor do I regard pneumonia as a contra-indication. The patients like the effect of the baths as this one will tell you. If the disease is running a mild course it is well to omit the baths at night in or-

der to give the patient an interval of rest for six hours. The effect of the bath upon the patient's pulse is uniformly of this character. In the bath it is soft and compressible and often dicrotic. Early in the disease a slow pulse, i. e., a pulse that does not proportionately rise with the temperature, is one of the diagnostic signs. Later in the disease, say the end of the second or beginning of the third week, the pulse is apt to be rapid. The patient goes into the bath with a pulse of 130°, soft, compressible and dicrotic. After removing the patient from the bath, and waiting one-half an hour in order to allow the heart to subside after the pulling and hauling incident to removing him from the tub, you then will find the pulse much improved, having become slower and smaller, and almost always of greater force. The arteries seem to be smaller under the fingers; they are also harder. This increase in the heart's action I think to be the best influence of the bath. As to the effects upon the temperature, it is of minor importance; early in the disease we commonly have but little effect at all. The bath always has a most quieting effect upon the nervous system. To quiet the nervous system do not give drugs. The bath will relieve the subsultus tendinum, and other nervous symptoms of the disease. Later in the disease we will expect a distinct depression in the temperature.

It will be interesting to know whether there will be an epidemic of this fever in this man's restaurant. It is almost impossible to get at the cause of disease in any individual case in the city. If there be an epidemic it may often be possible to trace the source, especially in the rural districts. One soon gives up attempting to trace the source of any individual case. In this man I have no idea as to its origin of the disease at all. One should bear in mind another possible way of transmitting the disease; in the urine there is a large percentage of bacilli present. Therefore remember that the urine, as well as the feces, may convey the disease. One of the best writers of the present day relates a case of the possible spread of typhoid fever through the atmosphere from one patient in a ward to another, occupying adjoining beds, and apparently great care being enforced upon those who came in contact with these two patients that nothing one used should be used by the other patient. He thought the second patient had become infected through the atmosphere, but he later discovered that the same thermometer had been used on both patients.

Regarding the vigorous rubbing of the patients while in the bath, it is not absolutely necessary to do so unless the patients want it. They usually prefer rubbing.

When the patient is to be taken from the bath, he should be advised not to try to help himself any except to hold himself rigid when the attendants lift him from it; that is the only exertion he should be allowed to make at that time. The patient should be laid on one half of a dry sheet; the other half should be folded over him, and the water should be sopped off with it; then the wet sheet should be removed and a dry one substituted. Please notice that the patient is now shivering; that should not, of itself, make us diminish the length of the bath. I have just asked the patient if the bath was disagreeable to him, and what effect it appears to have upon him. He answers that he would rather have the bath, although he cannot describe his sensations, or tell us in what way it seems to benefit him. He states that the bath makes him feel more comfortable and helps him to sleep afterwards. The immediate effect of the bath is soothing. Where the baths are to be given so often, I prefer to keep them under the sheet without any night

clothes, in order to save all the strength of the patients that I can; do not dress and undress the patient every three hours; let him lie naked, only covered with a sheet. A patient with a temperature of 103° or 104° does not take cold in the same way that we would if we were lying in bed and uncovered without any temperature. Do not waste the strength of your patients by dressing and undressing them every three hours. The patient is now given a cup of hot milk to drink. Before administering this the mouth is carefully washed out, and the tongue is cleansed with tincture of myrrh or sodium bicarbonate in a little water. I think that the sodium bicarbonate is the more comfortable. This procedure not only keeps the mouth clean, but it keeps the abnormal things from being swallowed and so prevents the spread of the infection and prevents the passage of the bacilli into the ducts of the salivary glands.

Case 3. Gas Poisoning Followed by Pneumonia and Acute Parotiditis.—This woman I showed you last week. She was admitted to the hospital suffering from coal-gas poisoning. The morning following consolidation of the right lower lobe was discovered. At the end of a week she developed a parotiditis on the left side. The parts were dressed with a compress wet with a solution of carbolic acid, which was covered with gutta serena tissue. Since last week you will see that the parotiditis has subsided very markedly. She is now convalescent with but one single point, just below the ear, which fluctuates, and shows a superficial collection of pus, about three-fourths to one-half an inch in diameter. The parotid region is red from the application of the carbolic acid lotion. The swelling has almost disappeared. The area about this local suppuration is quite hard, but it will disappear in the course of a short time.

Last week I told you that this was probably a streptococcal inflammation, the same, in all probability, that caused the pulmonary condition. This, no doubt, had its origin in the mouth, or in the pharynx, or the tonsils, setting up an inflammation of the parotid gland by way of Steno's duct.

Case 4. Syphilis.—This patient I bring before you without having had the opportunity of studying his case at all. He came into the hospital last night. He told me this morning that he had had a chancre, the initial lesion of syphilis, ten years ago. Since that time the history he gives is a very vague one. I wish you to notice the peculiarity in his speech. He says that his present illness began two weeks ago. He is 33 years of age. He first noticed when he got out of bed that he was dizzy. He admits that he had been drinking the night previous. He not only was dizzy, but he was also unable to walk about. He claims that he was not then drunk. He suffered, too, from frontal headache. He claims that when he tried to talk he knew perfectly well what he tried to say, but people did not seem to understand him. He now speaks very quickly and in a jerky sort of manner. He says there is no loss of power in the hand, arm or leg. He says he has noticed nothing else than the trouble with his walking and his talking. Now, I notice that there is a distinct loss of power on the right side. His grasp is feeble on the right side as compared with the left; he is a right-handed man. He is very unsteady when he first gets up, and he is a little unsteady all the time. He cannot stand with his eyes shut. The patella reflex is exaggerated. His tongue, I think, is in the median line. The face is drawn a little to the opposite side. The naso-labial fold is depressed on one side. Now, here is a history of syphilis ten years ago. There has appeared certain head symptoms, including disturbances of innervation, and a great

variety of lesions which have improved under treatment in the out-door department of this institution. He received the blue ointment according to the seven day plan; i. e., on the first night the ointment is rubbed into the thighs and groin; on the second, the legs and soles; on the third, the surface of the belly and the breast; on the fourth, the arms and the axillæ; on the fifth, the head and neck; on the sixth, the back; rest on the seventh day. He received the mixed treatment internally. My belief is that we have to deal with a specific endarteritis and periarteritis due to the lesion which dates back ten years. The prognosis is, therefore, very good. There is a distinct tendency to recurrences, and this man should be impressed with the necessity of placing himself under treatment at once, and keeping up this treatment according to the doctor's orders.

TRANSLATIONS, ETC.

RETROSPECTIVE THERAPEUTICS.

BY ALFRED K. HILLS, M. D., FELLOW OF THE ACADEMY OF MEDICINE OF NEW YORK, ETC.

Euphthalmin.—Of the three effects, says Dr. Albert B. Hale, of local applications to the eye (omitting cautery or astringency)—anesthesia, mydriasis, cycloplegia—many drugs produce all three, in varying proportions. Modern chemistry has supplied holocain for simple anesthesia. As yet, no drug produces simple cycloplegia alone. Mydriasis alone, however, can now be produced by euphthalmin, a complex synthetic product. It is best used in a 5 to 10% watery solution. Here the author gave tables and cited authors to prove that cycloplegia is practically absent, and that it can be used in all cases at any age to produce a dilation of pupil for study of lens and fundus. Conclusions: (1) No subjective symptoms produced; (2) only mydriasis caused, of short duration, beginning in thirty minutes; (3) effects shown earlier in youth than age; (4) ocular tension not increased; (5) no hyperemia or ischemia of conjunctiva produced, corneal epithelium unaffected; (6) accommodation practically unaffected; (7) normal pupil soon restored; (8) non-poisonous apparently.

The Best Diet for the Tropics.—On this subject P. R. Egan, Assistant-Surgeon, U. S. Army, communicates to the *Boston Medical & Surgical Journal*, "A Few Practical Observations Gathered in Porto Rico."

"Duty," he says, "has taken me at one time or another since the first days of the American invasion into almost every town from Ysabela on the northwest coast to Humacao on the East coast, and then up the military road to the capital. In the district of Guayama and southern Humacao it was part of my business to investigate the cause of deaths among the natives.

"Everywhere I found the main causes assigned to be anemia and phthisis. Everywhere I went I was struck by this ever-prevalent anemia. The pale, yellowish, waxy skin, bloodless lips and swollen, puffy features formed a picture never seen by me out of tropical Porto Rico. Yet I soon found that these people had been living on rice, beans, maize, dried codfish and fruits. Meat very rarely entered into their diet. They and their fathers before them had lived exclusively on the diet urged by the public press as suitable for tropical climates, and the result filled the hospitals with such ghastly cases of anemia that no one who has once seen the picture can ever forget the impression. On the other hand, I soon discovered that the people who lived

in the towns and could afford it ate two hearty meals daily. These people, I believe, used more meat than we used in American cities, and there is no doubt in my mind that I have used more meat and felt more need for it since I have been here than I have ever used in the same time in the United States. Yet I am one of the few that have not had to go home for ill health. While the natives that eat in the hotels with me, and as freely as I do, are perfectly healthy individuals who showed not the least trace of anemia.

"Only a few days since a native informed me with much gusto that one of the best things Porto Rico afforded was *chuleta de cerdo*—pork chops—surely one of the most unsuitable articles of diet for a tropical climate, our physiological friends will tell us, and yet the absence of which, in my opinion, made that native anemic to a noticeable degree.

"These observations are so common in this climate, and have been so forcibly impressed on me, that I feel more and more the wisdom of going very, very slowly in urging alterations in the army ration."

Therapeutic Application of Clabbered Milk.—The *Archives Orientales* (Dec., 1899), *J.A.M.A.*, contains a communication from Dr. Paschayan describing the fine results obtained in gastro-intestinal affections by the exclusive use of sour milk. The Kurds give it exclusively in acute enteritis, curing the patient in three or four days without other medication, and our Turkish confrère has been using it since 1888 with remarkable success in many cases. One young man affected with "putrid dyspepsia" for over a year has consulted numerous physicians and tried all kinds of food and medication, but was unable to digest or retain anything on his stomach. Instructed to eat nothing but clabber, his vomiting ceased from the first day and he rapidly recovered, until at the end of two months he could eat and digest apparently normally. Paschayan also gives it as a drink to typhoid patients.

Night-Air of New England in Consumption.—C. S. Millet (*Maryland Med. Jour.*, Jan., 1900; *Med. News*) tells of the treatment he has instituted and the results obtained in some cases of phthisis which he cites. The treatment consisted in the patient sleeping out-of-doors, except on those nights when it was very rainy. The cot was placed on the roof of a veranda, or on a platform built against the house. The patients used as much bed-clothing as was necessary to keep them comfortable. The first case was a young man with a remarkable family history of phthisis. He had incipient phthisis and had lost twenty pounds in weight. For five months he slept out-of-doors every night. At the end of one month his temperature was normal and his cough and dyspnea nearly gone. At the end of five months it was found that he had gained twenty-two pounds. The only medicine he took was some tincture of *nux vomica*. He worked during all the five months in a factory, and is now perfectly well. A second case was that of a man sixty-four years old, with distinct physical signs. He had slept out several months, with an improvement in the physical signs and a gain of eleven pounds as a result so far. A third case was of a boy infected with tuberculosis from his father's cow, whose cream he had taken to excess for some time. When the cow was killed the source of the infection was learned. This boy's lungs were so extensively involved that a permanent arrest of the condition is not expected, but after sleeping out-of-doors for six months he gained nine-

teen and a half pounds, and feels so well that he has to be restrained by putting him to bed whenever his temperature goes above 99.5° F. Case four is of a man who has had a pulmonary hemorrhage, and lost a good deal in weight. He had a cough, much weakness, and a small solidified area, so that he stopped work. He had been shut up in-doors eighteen out of the twenty-four hours for a long time. He has slept out-of-doors, gained twelve pounds, and the physical signs have nearly disappeared. Case five is of a young man with marked physical signs. He has commenced to gain in weight, although he has not been sleeping out-of-doors very long. In all these cases the more air they got, the more appetite and the less cough they had. Not a dose of cough medicine was given to any of these cases. Two neurasthenics, one of whom had been condemned to die of tuberculosis, tried sleeping out-of-doors and have been decidedly benefited. The diet was not restricted, but the patients were recommended to take plenty of milk, eggs and vegetables. The patients were required to take a cold sponge bath each morning and another at night at about 90° F. Millet thinks a patient should rest in bed enough during the day to keep his temperature below 99.5° F.

Sycose, the New Substitute for Cane Sugar.—Among the sugar substitutes, says *The Spatula*, sycose represents the latest stage in the evolution of a perfect product of this kind. It has a sweetening power 550 times greater than that of cane sugar, is odorless, and has the taste of refined cane sugar. In the manufacture of such substitutes for sugar as saccharin, etc., a mixture results consisting of the ortho- (the sweet product) and the para-variety (an inert body), and to obtain a pure product this inert substance must be eliminated. Owing to the process employed in the manufacture of sycose only the ortho-variety, in a condition of absolute purity is retained. The range of applicability of sycose is a very extended one. On account of its agreeable taste and great purity, it is eminently suitable for medicinal purposes in diseases in which the use of sugar must be avoided, such as diabetes. In view of its low price, it is also a most eligible sweetening agent for manufacturing purposes, and is highly recommended for use by confectioners, brewers, distillers, packers of fruits and canned goods, chocolate manufacturers, etc.

Treatment of Whooping-Cough With Antitussin. Heim (*Berl. Klin. Woch.*, Dec. 11, 1899; *Med. R. of Rs.*), speaks of the disappointment which has attended the administration of a number of remedies which were put forth as certainly serviceable in whooping-cough. In this list of alleged failures he includes bromoform and antipyrin and the more recently introduced thymic extract (pertussin).

Recently a preparation has been introduced containing fluorine, and bearing the trade name antitussin. Heim has used this drug in sixteen cases without synergists. The benefit obtained appeared to be constant and marked. The drug is necessarily exhibited in ointment form, since fluorine is too irritating to be swallowed. The fluorine, chemically combined with the radicle phenyl, is mixed with vaseline and lanoline. In order to apply antitussin the throat, chest and inter-scapular region are well washed with warm soapsuds and then rubbed dry. A lump of the ointment, as large as an English walnut, is now rubbed in vigorously with the palm of the hand, friction being kept up until no more ointment is visible upon the surface.

Of the sixteen cases nine were in the convulsive stage, and were all under the age of one and a half years, in relatively poor health, and with unfavorable surroundings. Some of these cases, we are shown by the symptoms—nose-bleed, subconjunctival hemorrhage, capillary bronchitis—to have been of more than average severity, while all were severe. The improvement was always prompt and at times startling. Cyanosis and threatened asphyxia were arrested so promptly that there can be no doubt that the drug has a marked anti-convulsive action. It also loosens the secretions. The duration of a case of pertussis appears to be greatly shortened, and it is possible that when begun in time its employment may altogether prevent the development of the convulsive stage, which is certain to be abbreviated in any case. Antitussin may also prove to be of service in conditions other than pertussis, such as simple acute laryngitis and bronchitis.

Surgical Treatment of Obstipation. In the *Columbus Medical Journal* for November 20, 1899 (*Charlotte Med. Jour.*), Taylor recommends division of the rectal valves as a sure cure for this condition. These valves are hypertrophied and mechanically prevent the emptying of the rectum fully and freely.

The operation is painless and may be done without an anesthetic and has no after troubles.

He reports several cases and himself among the number in which complete cure followed simple division of the obstructing valves.

New Method of Treating Syphilis by Inhalation. The secret of success of mercurial inunctions and pillow-slip and other methods of mercurial treatment is being ascribed more and more to the inhalation of the fumes and Kutner (*Berl. Klin. Woch.*, Jan. 1 and 8; *J.A.M.A.*) now discards everything except the direct inhalation of the mercury, which is rubbed into a specially constructed, air-tight box, heated or not, and the subject merely inhales the fumes through a tube and mask for half an hour a day. No symptoms of intoxication have been observed in any of the numerous patients thus successfully treated, and the inhaled mercury is found in the urine the same as with other methods. The subject is relieved from all the annoyance of frictions, etc., in the intervals, and the amount inhaled can be exactly determined and regulated. No stomatitis occurs from these brief treatments, although, as a precautionary measure, the patients are instructed to afterward gargle with potassium chlorate.

—A laborer on a roofed pier in the Eastern District of Brooklyn has presented, says the *Philadelphia Medical Journal*, an additional detail to the records of bone fractures. He was accidentally swept off his high perch by a canting piece of timber, and fell a distance of 18 feet, striking on his hands and knees on the floor of soft pine. The injuries which he sustained were a fracture in each leg above the knee, a broken kneecap, and grave internal injuries. The ragged end of the bone in the left thigh pierced the flesh and skin, and was forced a distance of an inch and a quarter into the plank. As the man rolled over, a two-inch section of the bone was snapped off and remained fast in the piece of timber. It yet remains uncertain what shall be done for the patient in the way of restoring the missing bone. It was necessary to use a chisel in removing the bone from the plank.

MISCELLANY.

—In Illinois, under the new medical act, "Christian scientist healers" have full right to practice without supervision or control by any authorities.

—Helen Keller, who is handicapped by the loss of the senses of sight and hearing, and consequent inability to speak, has passed her examinations for entrance to Radcliffe College. They were as strict as in the case of ordinary students.

—Recently the Duke of Westminster's horse, "Flying Fox," won the Eclipse stakes at Sandown Park, England, the purse being \$50,000. The whole amount was turned over by His Grace to the Royal Alexandria Hospital, Rhyl, Wales.

—Luigi treats chorea with the oil of gaultheria mixed with vaseline, externally. From six to ten drops are applied to the upper and lower limbs alternately, the limbs being afterward covered with oiled silk to prevent evaporation.

—Commenting upon a fatal bicycle accident at night, due to the excessive brilliancy of the acetylene lamp carried by the machine, the *Jour. A. M. A.* says that it seems to be doubted, and needs testing by careful observation, whether the carrying of any lamp at all is really a protection or a danger to both cyclist and passenger.

—Professional Convenience.—Patient: I say, doctor, just what is this "grip" anyway?

Doctor: Why, my good fellow, that's the name we doctors have for everything nowadays but appendicitis.

Patient: Ah! and what is appendicitis?

Doctor: Why, that's the name we have for everything but the "grip."—*Judge.*

—In regard to the results of the serum treatment of tetanus, the *Boston Medical and Surgical Journal* says that the experience of the last few weeks in Boston has agreed with that of previous years in showing that in acute cases, namely, those in which the symptoms appeared within ten days of the infection, treatment by anti-toxin or any other method was useless.

—At a recent meeting of the Prussian Academy of Sciences, Professor Dill spoke of the need of a universal language for men of science. He considers Volapük an artificial product of little use. English is his choice as the world language, because of its wide prevalence and because its simple structure and grammar make it eminently suitable for such use.

—We learn from the August number of *The Canadian Journal of Medicine and Surgery* that Grace Homœopathic Hospital, in Toronto, has been transformed into plain Grace Hospital. The Homœopathic staff will be retained, but there is also to be what the secretary, in his official announcement, terms an "Allopathic staff." We hope that in time this distinction, too, will fade away.

—A new research scholarship has been founded by the British Medical Association of the annual value of \$1,000, to be known as the Ernest Hart Memorial Scholarship, in memory of the late editor of the *British Medical Journal*. The appointee must devote himself

to the study of some subject connected with State medicine. Dr. John W. H. Eyre has been appointed the first scholar.

—At a recent annual conference of the Lancashire and Cheshire Branch of the British Medical Association, Dr. J. Hilton Thompson propounded a new theory in respect to cigarette smoking. He showed the distinct presence of carbonic-oxide gas in tobacco smoke, and when inhaled from cigarettes, he said, it has the same injurious effect on the system as choke damp in collieries.

—It is announced that the two veterinary colleges, the New York College of Veterinary Surgeons and the American Veterinary College, have been consolidated, and will hereafter constitute the veterinary department of the University of the City of New York. The school is to be known as the New York American Veterinary College, and it will be on a like footing with the six other schools of the University.

—It is a curious instance of the irony of fate, remarks a contemporary, that the electric exposition at Como, in honor of Volta's discovery, should have been destroyed by an insubordinate electric spark. The loss is complete, and includes the original models of all machines and instruments invented by Italians, as well as the priceless Volta relics, his machines, letters, etc., and specimens of all the latest and most improved appliances of electricity to medicine, surgery, and every art and industry.

—Numerous severe and puzzling cases of intoxication in Italy, especially among the tourists in hotels and boarding houses, have been traced to the custom of preserving the carcasses of the small birds, which are killed in numbers for the feather trade as they alight during their annual migrations. Those intended for the food market are supposed to be kept separate, but mistakes have evidently occurred, and the necessity of refraining from the toothsome "uccellini," as the cooked birds are called, should be impressed on all starting for Italy.

—Professor Charles Sedgwick Minot, of the Harvard Medical School, delivered the annual address to the Yale medical seniors on June 27. He said: "We are brought to the conclusion that though the primary function of our medical schools is to educate practitioners of medicine, yet they ought to assume now the further and higher function of training medical investigators. The requirements of comparative medicine call for more changes than we have yet mentioned. The very word comparative implies that animals shall be included in the study."

—Several carefully observed cases of falling of hair from emotion have been recorded of late in the *Progrès Médicale*, and a still more striking case, reported by F. Boissier, is now added. A normal, healthy farmer, thirty-eight years of age, saw his child thrown and trampled by a mule. He supposed it killed, and experienced in his fright and anguish a sensation of chilliness and tension in his face and head. The child escaped with bruises, but the father's hair, beard and eyebrows commenced to drop out the next day, and by the end of a week he was entirely bald. A new growth of hair appeared in time, but finer, and exactly the color of the hair of an Albino.

ORIGINAL ARTICLES.

TREATMENT OF PATHOLOGICAL CONDITIONS OF THE FEMALE GENERATIVE ORGANS IN THE PELVIS BY SURGERY PER VAGINAM.*

WILLIAM H. WATHEN, A.M. M.D., LL.D., PROFESSOR OF OBSTETRICS, ABDOMINAL SURGERY AND GYNECOLOGY IN THE KENTUCKY SCHOOL OF MEDICINE, ETC.

IN my frequent reports upon the subject that I will ask your indulgence this evening I may have taxed the patience of this society, but I will exhibit some specimens and speak of the variety of conditions for which the work has been done; I refer to the varieties of technique in removing ovaries, tubes and uteri per vaginam for the various pathological conditions for which such an operation is indicated. I will also speak of the technique in curetting the uterus and in operations for lacerated cervix.

We now perform vaginal hysterectomy in operations for small fibromata where we can take them out without morcellation or by morcellation; we also perform the operation for the removal of malignant uteri; we perform it for the removal of septic uteri, or for septic ovaries and tubes; we perform it where the pelvic structures are matted down with the uterine adnexæ destroyed or so involved that the female generative organs are of no value, and we cannot cure the patient without removing these structures.

I have selected a few specimens which have recently been removed to illustrate the remarks I shall make, and to demonstrate the ease with which these operations are usually performed by the observance of the correct technique.

No. 1. Here is a little uterus removed the other day. The patient was a feeble woman who had lost much blood and was very anemic. I found an epithelioma of the cervix, with a cauliflower ulceration two inches in diameter. All the cauliflower excrescence was curetted away. The uterus was then separated from its attachment to the vagina and dissected from the bladder and other structures in front and behind. The uterus was easily dissected out of its peritoneum, even pulling the peritoneum off the tubes and the ovaries, no peritoneum whatever being left attached to the uterus, but left in the pelvis.

This case illustrates how easily the operation per vaginam may be performed when there are no adhesions to interfere with the work. The time required for the removal of this uterus, after I began the first incision to separate the vagina until the uterus was removed and the hemorrhage controlled, was seven minutes. The patient has had no trouble since the operation.

No. 2. Here is a uterus with two fibromata removed a few weeks ago by incomplete bisection, being able to pull down the uterus and tumors and get them outside before I entirely severed the uterus in two halves; it was purposely left as it now presents. This is quite a large uterus with tumors to be removed through the medium sized vagina without morcellation; but it is astonishing in cases where the woman has borne children, where she is not too corpulent, and with relaxed

vagina and perineum how large uteri or tumors may be pulled through the vagina when properly bisected.

No. 3. This uterus was removed from a woman upon whom an ovariectomy had been performed in St. Louis two or three years ago, but she derived no benefit from the operation and consulted me for the removal of her uterus. The uterus had atrophied and was very small. Following the hysterectomy she is much improved in her nervous trouble with which she suffered and for which the ovariectomy was performed.

No. 4. These specimens, the uterus, the ovaries and tubes, I removed for double pyosalpinx. The ovaries and tubes were densely adherent to the surrounding structures, and when they were separated it was found that the uterus and adnexæ should be removed. The uterus, as you see, was bisected, which allowed it to be pulled down and easily removed.

No. 5. This is a uterus with a fibroid growth in it. The uterus was bisected, cutting the very hard tissue of the fibroid immediately through the center. She had never borne children; she was a large, fleshy woman and her vagina was small. After complete bisection each half of the tumor and uterus were pulled down through the vagina and removed. The patient had no hemorrhage or other untoward symptom after the operation.

No. 6. This specimen was recently removed for pelvic inflammation and pus tubes, where the adhesions were separated through the vagina, the ovaries and tubes brought down and examined in the vagina so I could see that they were totally destroyed.

I have other specimens here recently removed which I will not consume time to exhibit; but these cases illustrate that there are few pathological conditions of the generative organs in the pelvis requiring surgical treatment that cannot be removed per vaginam where the tumors are not larger than a child's head if the vagina is of average capacity. They further illustrate that we may, by this method, do the most conservative work that can possibly be done in the pelvic cavity. For instance, no man knows when he begins an operation for disease of the pelvic structures, the uterus or its adnexæ what he will have to deal with until he comes in contact with the structures themselves. Now, if you make an exploratory laparotomy from above you make a large wound, and you subject the patient to an operation which is attended with considerable danger and may result afterwards in a hernia; but where you go below and do an exploratory operation you simply make a small incision into Douglas' pouch, and with your finger, and without difficulty, reach the ovaries and the tubes, separate adhesions, and bring them into the vagina and examine them distinctly, and if they are not sufficiently diseased to justify their removal you return them, and the woman has incurred practically no danger by the operation, and if the ovaries and tubes are closed, after you separate them and bring them through the opening into the vagina, you can often open the obstructed ampulla; and if you find one or both tubes, one ovary or both, or an ovary on one side and a tube on the other sufficiently healthy to be of further service, you return them; that is, you remove the badly diseased organs and return those that seem to be relatively healthy to their proper position. The question of child-bearing is of great importance upon some occasions. There are many wives and husbands who are anxious for offspring, and there are many instances where the birth of a child is a question of great value in this country, and especially in other countries;

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therefore we must if possible preserve the woman's child-bearing proclivities so she may be able to become pregnant. When we find by the vaginal operation that there is a diseased ovary upon one side that is totally worthless, and that the tube upon the same side is comparatively healthy, the ovary may be removed and the tube left intact; we may go upon the other side and find that we have a healthy ovary but a diseased tube that is worthless, and we remove this tube and leave the ovary intact. I repeat, we may leave a healthy tube upon one side and a healthy ovary upon the other, and the woman may become pregnant and bear children. She will become pregnant more readily than she would if the diseased structures had not been removed. This has been demonstrated, and is not theoretical. Many abdominal surgeons can recall instances of this kind. A few months ago I removed the ovary and tube of one side for an extra-uterine pregnancy and the woman is now pregnant. A woman may become pregnant with nearly as much certainty with one ovary and tube on the same side as if she had both.

Thus you will see the immense conservatism of operative work per vaginam. I recently noticed in a discussion before a medical society where two of the most noted abdominal surgeons in America attempted to maintain a decided position against vaginal surgery "because it was not conservative, because when you began you could not stop, you must remove the ovaries and tubes, and maybe the uterus too." This demonstrates that these men do not understand surgery per vaginam; they have devoted their lives to abdominal surgery. Their confidence in opening the abdomen and removing structures by the supra-pubic method has become so general that they do not even reason logically about the methods of operating from below. There is ten times the conservatism in operating per vaginam than there is in operating through the abdominal wall. I open Douglas' pouch and separate all adhesions, open the mouths of the Fallopian tubes, and return them to their proper position; then with a continuous catgut suture, in a few minutes close the opening; the woman is then put to bed, and the next day if she should walk about the hospital I do not believe she would suffer any serious annoyance from it. I would not advise such a course, but should she do so it would probably cause but little disturbance. She should have no elevation of temperature or pain following the operation where you save the tubes and ovaries. If you open the abdominal cavity, I do not care whether you remove anything or not, the woman certainly must not get out of bed for as much as two weeks and should not do so as early as that. While I do not allow them to get out of bed within a week after the vaginal operation, were they to do so this act of imprudence would usually cause no untoward symptom.

There is a vast amount of surgical work that can be done per vaginam. Of course, if there is a tumor as large as a child's head with a small vagina I would not attempt to remove it by morcellation, because the operation is too dangerous. But in those cases I would cut the vagina from its attachments to the uterus, then open into Douglas' pouch, control the uterine artery below, cut the lower part of the broad ligament from the uterus for at least one and a half inches; then open the abdomen, and unless some complication existed above I could remove the uterus by clamping the broad ligaments in from four to ten minutes. Of course, that does not include the time utilized in closing the con-

nective tissue spaces and ligating the arteries in continuity. I apply a long clamp to the broad ligament on each side, then sever the uterus from its further attachments.

I claim that vaginal surgery in the treatment of all forms of pelvic inflammation, pus tubes, pelvic abscesses, ovarian abscess, extra-uterine pregnancy in the early months before rupture or after rupture into the broad ligament, or after rupture into the peritoneal cavity where the hemorrhage is not too great, or in rupture into the peritoneal cavity where the patient is not strong enough to justify a laparotomy because she has bled profusely, is the treatment *par excellence*. I say that this work can be done per vaginam with incomparably better results immediate and subsequent than by the supra-pubic method. Take the last thirty cases of extra-uterine pregnancy I have treated; I have operated upon all of them per vaginam and many of the specimens have been exhibited to this society in several of which rupture had taken place into the peritoneal cavity. There has not been an untoward symptom following any of these operations. Further, where there is a rupture into the peritoneal cavity in extra-uterine pregnancy, with the escape of a large amount of blood, with the woman pale and almost pulseless you may hurriedly and without the use of chloroform, bring her across the bed, make an opening into Douglas' pouch, introduce your finger, let out the blood, bring the ruptured tube out, put a forcep upon it, introduce a little gauze, let your patient remain in bed and stimulate her by whiskey, strychnine, hot applications, etc., until she has recovered from the shock. You can do this without subsequent danger because there will be no further hemorrhage, as you have the forcep clamped upon the bleeding tube in the pelvis; then when she has recovered from shock sufficiently for an operation, either by the vaginal or abdominal route, you may give her chloroform, remove the forcep and complete the operation.

I will not detain you much longer, but there is no narrow limit to the variety of work that can be done per vaginam. I have often emphasized that curettage of the uterus has done more harm than good, has killed more women than it has saved lives; but this has been in the hands of incompetent men. But curettage of the uterus by a man who knows how to perform the operation correctly and at the proper time and on the proper patient is one of the greatest advances in modern surgery. It is an operation that any good surgeon can perform if properly instructed. It is an operation that will never be followed by death, by elevation of temperature, pain or acceleration of pulse, if properly performed. For instance, to-day I had at my clinic a woman with a uterus as large as a child's head filled with fibroid tumors. She had bled profusely, and was so very anemic that we were at first afraid to operate upon her. She had been pregnant for three months. The embryo was dead and there was a mole. The vagina was sterilized, the cervix dilated, and the cavity of the uterus curetted, every particle of the diseased tissue being removed. My finger was then introduced to the fundus of the uterus, and the cavity tamponed with iodoform gauze. No hemorrhage followed the operation, and the woman will have no hemorrhage until the new membrane has been produced and the fibroid tumors cause further degeneration or she again becomes pregnant.

I will conclude with a few words about operations for laceration of the cervix. Most doctors do not ap-

preciate what can be done by vaginal work because they magnify the difficulties of it; they say it is difficult work, that all vaginal operations are difficult. When I tell you that the great Emmet, who discovered the pathology of laceration of the cervix, who discovered the method of curing these cases by an operative procedure, consumes an hour in operating upon bilateral laceration of the cervix, using from two to four retractors in the vagina, you will understand, of course, that it must be a difficult operation, because we all know that Doctor Emmet is a renowned surgeon and he deserves the reputation that he has. But, gentlemen, when you throw away your speculums and retractors, when you use your fingers only, and with the uterus held by two little Pean forceps, denude the torn cervix perfectly, and then use the continuous catgut suture instead of Emmet's silver wire, completing both sides in from seven to ten minutes, your patient recovering without a particle of trouble, every case where the after-treatment is properly carried out getting well with an os that frequently three months after the operation is so perfect that you cannot tell that she ever had a child; then you can see the simplicity of the work. Then you can see that any good surgeon can do it. Compare this with Emmet's work and you can see how people would not undertake it because of its difficulty. There is never a necessity for using a retractor or speculum in the operation for laceration of the cervix. There has never been a necessity for the use of these instruments in curretting the uterus. There is seldom any use for the retractor or speculum in the performance of an hysterectomy. The only instance in which I use a speculum or retractor is to occasionally insert one retractor under the bladder so as to keep that organ from falling down upon the uterus while performing hysterectomy, though I have morcellated a tumor as large as my two fists without the use of a retractor of any kind. If you will throw your retractors and speculums away, if you will use your fingers to expose the parts, and Pean forceps to grasp the uterus or cervix and draw it down and put the woman in an exaggerated lithotomy position, you will find you can easily do this work, and nearly every patient you operate upon after you have had a little experience will recover.

URIC ACID AND ITS EXCRETION.

BY HENRY ALBERT RUNDLETT, M.A., M.D., NEW YORK.

IN considering this question from a new point of view one must approach it with considerable trepidation, both because of the able minds that have occupied themselves with it and because of the inherent difficulties naturally involved in its consideration.

The chemical formula of uric acid $C_5H_4N_4O_3$ clearly shows its derivation from the albuminous constituents of the body and of the food ingested.

It is not necessary therefore to consider the possibility of its derivation from carbohydrates or hydrocarbons, although it must be admitted that from the metabolism of these latter food materials symptoms arise similar to and as inconvenient and painful as those arising from the presence of uric acid or its isotherms in excess in the tissues of the body. The claim made by an eminent specialist on diet in one of his latest works that, as carbohydrates are derivable from albumins so are albumins derivable from carbohydrates is not tenable, and calls for no consideration as a probable source of uric acid in face of the physiological fact that oxi-

dation and not organization is what takes place in all animal issues, which can only transform and disintegrate food materials.

The difficulty in the excretion of uric acid is due to its slight solubility, 1 to 15,000, and in this point lies the whole crux of the matter. The other NH_3 compounds found normally in the urine, as urea, kreatinin, xanthin, etc., are very readily soluble and give rise to no symptoms except in conditions of extreme nephritic inability or disease.

It is almost impossible to determine the several sources of these nitrogenous compounds, but from the following data something may be deduced which may give a fairly clear working hypothesis for the treatment of uric acid conditions. In attempting to ascertain if insufficient oxidation was the reason for the appearance of kreatinin in the urine the following data were obtained. Known doses of kreatin were ingested and the results tabulated. The first symptom was a fuller and more forcible heart beat with high arterial tension, followed by an increased flow of urine which showed a lower specific gravity and, of course, a diminished percentage of solids. The normal quantity of urea in twenty-four hours was, however, slightly increased, but there was no apparent increase in the uric acid, undoubtedly due to the fact that an increase proportional to the urea would be too small to note, while the kreatinin showed its normal quantity plus a proportional increase, plus the known quantity given.

This experiment repeated many times gave no other result, and seemed to indicate that no oxidation takes place in relation to the xanthin compounds or their isotherms after their appearance in the tissues, and that all are distinctly ultimate forms in the destructive analysis of the proteid compounds in the metabolic processes which the tissues and food undergo. The next point to consider is the fairly constant proportion which is found to exist in the same individual between these various substances under normal conditions, and which would seemingly indicate, since these NH_3 compounds or salts are ultimate forms in destructive analysis, that different tissues or materials are responsible for their appearance.

When we consider, and that not so long ago, that albumen was albumen simply, this question as to separate sources for kreatin, uric acid, urea, etc., could not arise, but insufficient oxidation was held as a good and, in fact, the only possible reason for the differing forms of NH_3 salts appearing in the urine. Now, knowing that there are at least fifteen easily differentiated proteids, it becomes necessary to consider whether or not the destructive analysis of some one special form may not be the source of uric acid, and in this way allow of an intelligent basis for the treatment of the most annoying, troublesome and protean condition of disease that afflicts mankind.

In considering this possibility one must first take up the meat eaters as such, for the vegetarian and "fruitarian" are not uric-acid subjects except under certain abnormal conditions when they may also become meat eaters by subsisting upon their own tissues.

There is, and this is within the knowledge and experience of all medical men, no single person who eats meat constantly that does not exhibit in some form symptoms due to insufficient excretion of uric acid or uric acid poisoning, for that is what they indicate.

Dull headaches, subacute muscular pains, tender fibrous tissues everywhere, reluctant and painful joints, heavy and unrefreshing sleep, mental hebetude, irregular and weak heart, inflammations of the mucous mem-

branes or affections of the throat and nose, Riggs' disease of the gums, nervous irritability and the rest of the tale, all appear in persons sound organically and wholly without any apparent reason for their complainings. These subjects will be found almost invariably to be hearty consumers of meat twice or thrice daily. Their urine carefully examined will show a higher percentage of urea as compared with uric acid, and the ordinary proportion of 35 to 1 may be found to be 50 to 1, or as low as 80 to 1. Now we know that in normal conditions of tissue growth as in young persons that 33 to 1 is a fairly constant ratio between urea and uric acid. This is also true of persons who live plainly and eat sparingly of animal food.

It would seem to follow, then, that when we find in the urine an excess of urea over uric acid it is due to the fact of the insolubility of the uric acid or its isotherms and to the impossibility of its excretion by the kidneys and not to its absence. It is, however, got rid of temporarily by deposition by infiltration in various tissues, remote from the vital centres usually, till a favorable season comes for its elimination. Failing this a train of symptoms will arise from its continued and increasing presence in the various tissues it affects, and an explosion that will be called acute gout or rheumatism may follow. Then diet, care and rest will aid the outraged tissues in getting rid of the troublesome and almost insoluble materials, and the urine will show during this period an increased quantity of uric acid equivalent to the previous diminution till the excess has been excreted and the patient is ready to begin again.

In the animal diet we know that the root of the matter lies, but where? Fat meats as pork and bacon and fats from beef and mutton do not seem to have any unfavorable effect upon gouty conditions, and cheese and eggs may be eaten with impunity. Raw beef as such is difficult of digestion, so that we cannot be sure of its real effects in gout, or its action upon the tissues, but in certain rheumatoid conditions maceration of raw beef do not seem to affect the gouty subject unfavorably, nor further, to bring this point in here, do they in wasting conditions increase the uric acid symptoms, but on the contrary there is immediately shown a bettered condition and a diminishing elimination of alkaline phosphates as well as of uric acid on their administration. It seems reasonable to deduce from those clinical conditions that are familiar to all, certain data which seem to bear upon this point, namely, the probable source of uric acid, or the proteid or proteids from which it is derived. It has been a noticeable fact in all the epidemics of influenza that the prostrated cases where the symptoms were accompanied by great nervous exhaustion showed invariably in the urine an increase of the phosphates up to four and five times the normal quantity.

All the symptoms present showed also a condition of the tissues identical with subacute gout, so marked as to lead many to conclude that the disease was identical with dengue or "breakbone fever." The conditions during convalescence also indicated an exhaustion more or less complete of the cell nuclei, a condition which would fairly follow from the large phosphatic waste as evidenced by the urine. The same conditions of subacute muscular pains and fibrous tissue pains are observed in wasting diseases where little remains but muscular, fibrous and glandular tissues upon which the body can subsist, and here again these pains are accompanied by increased phosphatic waste. In excessive meat eaters

we find the same conditions present, but due to the metabolism of other tissues than their own.

Is it not fair and reasonable to infer that the proteid substance which breaks away from the alkaline phosphates in influenza, in wasting conditions and in excessive meat diet to be the common cause of the similar and almost identical conditions of uric acid excess seen in all three classes of cases in varying degrees of intensity? Fat pork, bacon and fats derived from mutton or beef do not cause any difficulty in the uric acid subject, because in the fat cells the "nuclein-phosphates" are not present, and in eggs and cheese the amount is negligible also.

Again in wasting subjects when reparative processes begin through the assimilation of proteid phosphates in excess of the need of the vital functions normal conditions as to the tissues begin to appear and the subacute rheumatic or gouty pains disappear. In the influenza patient the self-limiting character of the disease causes the phosphatic waste to cease, and with that waste disappear the characteristic pains. The excessive meat eater under treatment as a gouty patient eats no meat, lives on vegetables, fruits and salads, and his troubles cease in due time. Is this then the real explanation of the matter? The metabolism of the cell nuclei becoming normal, uric acid or its isotherm drops to its normal quantity, and all the symptoms caused by its presence in excess in the tissues gradually disappear in consequence of its elimination. If this proposition can be proven to demonstration, then it is plain that nuclein, the globulin which is found in combination with the inorganic phosphatic molecule in all cell centers, is through its oxidation the most important source of uric acid.

If we can proceed upon this line of reasoning, as a working hypothesis, if not as a definitely proven proposition, we have the treatment of rheumatism, gout and all the protean forms of uric acid poisoning reduced to the simplest terms, and they can be embodied in two words, excretion and nutrition, the first for the overfed, the second for the insufficiently nourished.

How then to cause a sufficient excretion in those who must or will eat meat in excess in spite of all advice, warning or pain? One point germane is that the alkalinity of the blood plasma is lowered by a meat diet, and its solvent power is thus diminished in face of a greater need. To increase the volume of blood by the ingestion of neutral fluids is again to diminish its solvent power so that pure water in excess does not tend to help eliminate uric acid or its isotherm. In many women, it may have been noted, who drink but very little fluid no symptoms of uric acid excess arise, because of a diminished volume of blood, and an increased alkalinity, which allows of a high solvent power, and in the urine of these subjects a high percentage of uric acid is found probably because of this fact.

However, to eliminate the excess of uric acid or its isotherm in those cases which come under observation it is necessary to proceed either by drugs or diet to increase both the solvent power and the volume of the blood. If by drugs, then there is large and elegant variety ready to every man's hand, and their number, now at least two hundred in the United States Pharmacopœia, betrays a lack of results satisfactory to the users of them. However, no drugs I have observed have acted with the same directness and simplicity as the alkaline-lithic combinations as found in certain natural waters that are ready to hand in almost every shop. In ex-

perimenting with them several were tried, but the one, the Bear Lithia Water, from which the best results were obtained, commended itself by its softness and gratefulness to the palate, as well as for its therapeutic efficiency. This water gave in certain acute conditions of uric acid excess an elimination to saturation through three volumes of urine. The increased quantity of water made, carried in solution the effete N.H_3 compounds to nearly a double quantity, but the uric acid was present to nearly the full limit of solubility of the increased quantity of urine. It might be thought that the polyuria was a sufficient cause for the increased elimination, but when caused by a pure distilled water it is generally admitted that there is no increase in the amount of uric acid, but sometimes the reverse is true. When caused by an alkaline-lithic water, however, the elimination of uric acid keeps pace with the increased volume of water passed till the excess has been gotten rid of, and this is due probably to no other reason than that the abnormally increased plasma has normal solvent power and the uric acid symptoms disappear with rapidity in consequence. To uric acid subjects bound to eat meat, but who do not wish to suffer for their gustatory and gastronomic sins, there is safety from pain and disease in a good alkaline-lithic water, while the nephritic difficulties that are sure to arise from the constant excessive elimination of uric acid can be minimized also by its use. As to diet in these cases certain recommendations upon the lines of this article may be made.

Green salads, vegetables and fruits of all kinds increase both the volume and alkalinity of the blood by the water of their tissues and by their constituent alkaline salts. A certain infusion of them into the daily dietary of uric acid subjects will have a most salutary effect. The salad should always be eaten with the meat and if ordered in goodly quantity it will replace meat in part, and will be markedly useful in helping to get rid of the evil effects of the remainder.

In those conditions where nutrition is the line of treatment to be taken it is necessary to consider what dietary will nourish the cell nuclei, and yet not add materials to the blood to be excreted as uric acid in addition to the normal amount.

Vegetable tissues do not add to the organism materials which will be directly converted into uric acid, but do give the complexly organized phosphates that nourish cell nuclei. Nuts of all kinds are especially valuable, and when well masticated present no difficulty to the digestive tract. All fruits which have edible skins, which should be well chewed, as pears, apples, grapes, plums, etc., also give the necessary phosphatic and ferric proteids in large quantities. Salads, as lettuce, celery, watercress, chicory, field salad, cabbage, both white and red, cucumbers, onions and tomatoes, all present in readily and quickly assimilable forms the needed materials for nutrition and repair in those cases of neurasthenic and anemic gout or rheumatism where the symptoms of uric acid excess arise from rapid tissue waste. Raw meat juices, cream and milk will be found in the highest degree efficient where the digestive ability permits their use. In these cases little or no medical treatment is necessary in order to get marked changes in the conditions present, unless grave organic disease be the cause of the symptoms.

A method of making a very appetizing salad may not be without interest. Several or all of the "green things" obtainable may be combined in about equal proportions, and very finely minced. The oil should be added during the mincing process, and it will be found that the

finely cut leaves will absorb three or four times as much without giving evidence of its presence as is ordinarily used in preparing a salad which is of itself an important point in the treatment of neurasthenic patients. Lemon or lime juice is to be preferred to vinegar alone in dressing the salad where either can be used and is agreeable. The salt should be added after the salad is served.

This combination of variously flavored leaves and fruits is most palatable and can be varied indefinitely. The salad should always be served with the meat, after the Continental manner, and not as a separate course or with cheese after the English fashion. Of course the simplest way for the average normal man to avoid the whole range of symptoms and troubles due to uric acid excess is to do without meat entirely, but as that is almost an impossibility and is an absolute improbability, those remedial measures which are simplest and most natural should be of interest in order that those may be helped who cannot help themselves, and in a way that makes drugging unnecessary and its consequences unfelt.

THE SCIENTIFIC EXAMINATION OF A CHILD.*

BY DR. E. P. DAVIS, PHILADELPHIA.

WHEN we approach a child we are in the presence of an extraordinary and difficult problem. No human child is born without the transmission of distinct tendencies and hereditary characteristics. There are two ways of approaching the child. First, a way that is too habitual, is to look upon the child as the recipient of medicine, and possibly through its parents as the source of fees. The commercial practice of medicine is common throughout a proportion of physicians, I am sorry to say. The other method of approach is to consider carefully what manner of being it is, to see in what particular this child differs from the normal, how much can be controlled, how much is due to distinct pathological processes. It requires a considerable amount of intelligence on the part of the parents, which is often wanting. When we speak to you on the study of pediatrics, we take it for granted that you desire to conduct your study and practice on these latter principles.

When you come to the question of heredity you have to proceed judiciously. You cannot ask the parent, "Have you been a drunkard?" You have to infer, and judge many things from the physical marks. You can get the tubercular or neurotic history. Remember no one is ashamed of tuberculosis or nervous prostration. When it is a question of the transmission of syphilis, you must infer rather than question. Some will confess to you a history of alcohol.

Next to heredity is the prenatal condition; the health of the mother before the child's birth and other conditions making themselves felt on the unborn child in a remarkable manner. Then comes the general history of the child, whether the mother has nursed the child, whether the child has had any severe illness. There is the recent history—and long before this you have opened the flood gates of maternal conversation. Much of the conversation in getting the history is really an opportunity for you to study the infant, and while she is telling you her story, the child is telling its own, in some way or other, just as is stamped on every adult its own physical condition. The child is perfectly fair with you, and tells you no lies.

*Abstract of a lecture delivered before Woman's Medical College, Phila.

How shall you proceed to examine the child? In eliciting its history you must bear in mind these three stages: First, the period of nutrition; second, the period of dentition, and then the question of the presence or absence of any infective agent.

Few of us have perfect vision, we cannot observe accurately and truly. When you come to observe the child the first thing to be noticed is its apparent size; "apparent size," I say, for it is so wrapped up in dry goods that it is a difficult matter to tell its actual size. And this brings up the fact that you should remove these wrappings so as to come within at least one of it. A certain bulk is necessary to health, and the child should be plump; but the child in health is not flabby, and when we speak of apparent size we must use a discriminating judgment.

In regard to color; now as our country seems to be extending, we have white babies and black babies, and yellow babies, and when we have jaundice in babies it exactly simulates one of the normal shades. For a pathological variation witness the earthy color of syphilis compared with the rosy color of the healthy child. Observe the posture of the child—a rare thing for the physician to observe. Remember that when within the womb the child to accommodate its bulk assumes the position of flexion. The amniotic liquid enables it to move, although it retains the position. The first few weeks after birth it retains this intrauterine position when laid on its back in a warm, comfortable room, and moves itself about, there are certain peculiar postures which are certainly suggestive. The hands are prehensile, the feet also; the toes will distinctly curl down, over one's fingers, and you are reminded of the generations through which it has come. It is perfectly natural and logical, and no reflection on the baby. It is better to have come from a monkey than to have fallen down from an angel. Things are getting better, and they must get better.

Then comes the expression. The child has an expression, physical and not mental. The mental is one of the charms of the adult face that cannot be in the infant's. This resembles the uncut gem, while the fully developed character is the jewel. The expression of the infant is a direct evidence of its physical condition; witness the happy face of the healthy child, the sorrow and anger of the colicky child and the indescribable pathos of the dying child.

The child's pupil is small; it is not mobile at first. As the child grows the pupil opens, and the child begins to perceive, having at first only seen. It is a mistake to think the eyes should have no light. Accommodation is not developed; it is proper to shade the eyes, but not to keep them in a darkened room.

How much does the baby weigh? That depends on who answers the question. The grandmother calls it two and a half times as much as it really is. If the great grandmother answers, it is infinitely enlarged. The nurse tends to favor the parents. The doctor is apt to be reserved and will only say in pounds and ounces. What are the ranges? We find the range is from 717 grams to 6,123; that is a baby weighing 717 grams has lived and grown up, while the largest baby that lived was 6,123 grams. The smallest I have seen was a little girl that weighed 2½ lbs. She is now five years of age, and in as splendid health as anyone. I have seen several 3½ lb. babies live. When we get up to the other extreme we find that the largest baby that has been seen weighed 11,300 grams. Of course that is tremendous. The largest Cæsarian baby I have seen

weighed 9½ lbs. How do we account for this great range in weight? One thing is the condition of the mother. A poor starved mother cannot produce a large healthy child. The infantile nutrition is always in excess of the maternal. The child's blood is always richer than that of the mother.

How many babies die? About 39 per cent. die before they are one year old according to some statistics. This seems large, but it is a question whether it is far from the truth. Through Europe there is a mortality among infants of from 25 per cent. to 40 per cent. In this country it is probably smaller for some reasons. Causes influencing the general development are first the youth of the mother. A woman who is too young for all the strain of child-bearing has a weak child. This is seen in the mother of fifteen with the very feeble child. To give them the greatest possible advantage a woman cannot bear children before the age of twenty-three or twenty-four. There is the influence of legitimacy or illegitimacy. We are familiar with the influence of the shame which the mother is called upon to bear. There is the question of nutrition. Was the mother starved, either through her own laziness or through want? Times of famine, war, pestilence all show their influence on the development of children. Then there are the infections that sweep over the country. The fortunate thing is that the more acute an infection is the less pain it brings as a rule. I spent a delightful ten days with pneumonia, highly delirious, driving a pair of better horses than I shall ever have.

Another influence—we have sweeping over the human family the processes of degeneration. This is the conservation of human energy. It is inevitably seen that it is impossible to produce a breed—a royal family—for generations without the crazy king, the drunkard, and then the strong man coming from the woods to seize the crown. So the processes of degeneration are the greatest rebuke to human pride and a notable factor in the development of the child.

Here we have a baby for inspection. Its "apparent size" is about its actual size, for it is not burdened with wraps. The complexion is clear for one of this race. There is that in the contour of the cranium and face which is distinct evidence of its race. And here is a faint suspicion of an abnormality; note the contour of the dome of the head with the thicker bone. The posture is one of a child in comfort. The breathing is natural, and it looks about without seeing anything. It is easily hypnotized or attracted by bright objects such as spectacles. If you watch the posture of its arms they are neither above the head nor clenched in toward the body nor extended down, but moving about near the waist. When you come to the lower extremity you will observe that the toes are just as prehensile as the fingers, and it is simply a process of evolution that the toes are shorter. The limbs are in a position of comfortable flexion. You may see them drawn up, indicating peritonitis or abdominal pain, or you may see them extended straight.

There are a few things we should tell you as regards proportion. The length is fifty centimeters; and it has two other dimensions which are proportionate—they are the circumference of the head and the circumference of the chest. We find the chest to be one-half the length of the child plus ten. If the length, then, is fifty, the chest circumference should be thirty-five. The head is bigger around than the chest because the child should have more brains than wind.

So you add two or three centimeters to the chest circumference, making it about thirty-eight. These proportions are maintained throughout the early development.

There is another interesting thing about the child, the question of its reflexes, indicating the way it gains knowledge of the outside world. If you accustom yourselves to observe posture and appearance you will see that the moment disease attacks the child there is an expression of it. If the child is uncomfortable there is reason for it. How far could we go without any history of the child? We could get a perfect history of its condition without a word from anyone. You must appreciate the fact that a child can breathe with its mouth closed, and that motion is the normal expression of young protoplasm.

CATARRHAL PNEUMONIA.*

BY W. N. BRYANT, M.D., LUDLOW, VERMONT.

To such of you gentlemen as may be looking for a scientific, classical or text-book article upon this topic, either apologies or congratulations are in order—which depends entirely upon the point of view. Certain it is that, happily or otherwise, you are elected to disappointment.

My desire, on the contrary, is simply to offer some practical observations and suggestions upon the history, course and management of this disease from the standpoint not of the pathologist or teacher, but rather from that of the ordinary average general practitioner as he meets it in his daily routine of professional duty. With a certain class of physicians catarrhal pneumonia is one of the commonest of diseases; with them it prevails at all seasons, in all places and with "all sorts and conditions of men." On the other hand, many careful and painstaking practitioners, from inability to establish a diagnosis in all respects answering to the typical text-book descriptions, are well-nigh inclined to doubt its existence as a separate and distinct form of disease. This diversity of opinion, and the looseness with which the term is often applied, arise, I believe, from a misconception of the true nature of the disease—a misconception depending in its turn upon the fact that the name itself is misleading. We have come to associate the term "pneumonia" with a certain set of symptoms incident to the course of croupous, or *true* pneumonia. The term catarrhal pneumonia would indicate that it was at least only a modified form of the same disease, but when we look for the distinctive symptoms which constitute the condition which the mind has idealized as "*pneumonia*," we feel like paraphrasing the refrain of the old hymn, "These are the things I long have sought, and mourned because I found them not." True, both are inflammatory diseases of the pulmonary organs, characterized by fever, cough and perhaps pain, but the analysis of individual symptoms offers strong contrasts. For instance: Croupous pneumonia is nearly always a primary disease, begins abruptly, pursues a well-defined course barring complications, is sharply limited in duration to a certain number of days, terminates by crisis as rapidly as it developed, and, finally, it is a zymotic disease depending upon the presence of one, or probably several, species of specific bacteria. Also, it is generally unilateral, attacking all ages indiscriminately, but especially those in middle life. With the catarrhal form, so called, the opposite of these conditions obtains in every particular. It is always a second-

ary disease—secondary to and practically an extension of an already existing bronchitis. It therefore develops gradually, has no distinct time limits, is most frequently weeks in duration, terminates gradually with no definite crisis, is not infectious, being a simple catarrhal inflammation, is in fact essentially a bronchitis. If micro-organisms are present they are incidental rather than causative, it is usually bilateral, and the disease itself is almost entirely confined to the two extremes of life, by far the larger number of cases occurring during the first three years.

Again, while the percentage of fatalities in croupous pneumonia is from 16 to 25 per cent., in catarrhal pneumonia it reaches 50 per cent. In the former disease our patients uniformly die from heart failure, while in the latter they die from bronchial obstruction and carbonic acid poisoning. So uniformly is this true that Juergensen in his treatise upon pneumonia, in order to give emphasis to the statement, uses this striking antithesis: "In croupous pneumonia the danger lies in the heart and always in the heart; in catarrhal pneumonia the danger is in the lung and always in the lung." If consolidation of lung tissues does occur during the disease it invades not a whole lobe or more as in croupous pneumonia, but only here and there a single lobule, caused by the plugging with mucus of a small branch or bronchiole and collapse of the lobule to which it furnished air. It is only when these small areas are numerous and coalesce to form larger patches of infiltration that they give rise to physical signs. Writers are agreed that the diagnosis between catarrhal pneumonia and capillary bronchitis is always difficult, often impossible. However it may be to the strict pathologist, to the physician, clinically, there is no need to distinguish between the two, and the attempt to so differentiate them is largely the cause of the uncertainty which prevails regarding this disorder.

Following is a brief clinical history of what I would regard as a case of catarrhal pneumonia: You are called to a child who for some days has had a "cold." There are the usual symptoms of a coarse type of bronchitis; remedies are prescribed and the patient left with directions to send if necessary. In a few days you are recalled and told that the patient was better for a day or so, but has been "taken worse." You find now a hot, dry skin, fairly high temperature, with respiration and pulse rate entirely out of proportion to amount of fever. The alae of the nose dilate and the abdominal muscles are brought into play during respiration. Examination of chest shows fine mucous râles over both lungs and very little else. From day to day the symptoms increase in severity; cough is excessive and comes on in a spasmodic form resembling somewhat the paroxysms of whooping cough. The child often strangles and gets blue, respirations grow more shallow and pulse more rapid. With this there is a peculiar restlessness—a constant tossing and moaning quite distinctive of this condition. After a time the "blue spells" develop into continued cyanosis, cough diminishes as the symptoms of poisoning deepen and the little patient dies, or, if more fortunate, makes a tedious convalescence—in the former case, owing to the decree of Providence; in the latter, to the skill of the physician. I am aware, gentlemen, that there is nothing in any way peculiar or unusual about this. It is only a brief and imperfect description of a case of progressive bronchitis, affecting ultimately the fine tubes or bronchioles.

Is the pneumococcus present? Perhaps, but not necessarily nor probably. Is there consolidation of any tissue? There may or may not be. If so it usually oc-

*Read before the Vermont State Medical Society.

curs in small isolated patches as before described, often impossible to determine. Of more practical importance than the history of the disease, or even its strict pathology, is its management.

First for prophylaxis. A little more care during the primary bronchitis, a few more visits after the patient seems to be improving, will often prevent a recrudescence and extension of the catarrh, which constitutes the more serious affection. We have probably all noticed the greater frequency of this disease since the prevalence of the epidemic influenza known as *la grippe*. When once established, what are the indications? First, the surroundings. A good-sized light and airy room, easy to ventilate and also to warm, is a matter of much importance. This is the more apparent when we recall that the great danger with these patients lies in deficient oxygenation of the blood; the air, therefore, should be the purest possible, and should also be rendered moist by the evaporation of water. The thick, tenacious secretion with which the small bronchi are filled calls loudly for fluid to render it less viscid and more easily removed by coughing. In a disease like this, where a small thing may turn the scale in either direction, we cannot afford to neglect even trifling precautions.

EXTERNAL APPLICATIONS.—What to apply to the chest is one of the first questions the physician must answer. Poultices, in adult cases at least, are deservedly in ill repute, but with children conditions are different. They are easily handled and dressings can be readily removed and reapplied, while their tender skin more readily absorbs applications, and considerable moisture may thus be taken up. Warmth, moisture and moderate counter-irritation are the objects to be attained. The old-fashioned lard-and-onion poultice, if not an ideal, is at least an efficient dressing if nothing better can be obtained. Objections to it are mostly of an æsthetic nature, for like the offence of Hamlet's King, it is "rank and smells to heaven." All things considered, the most useful dressing is the ordinary quilted cotton jacket to envelop the chest, which should be well anointed several times in the twenty-four hours with camphorated oil to which has been added a small amount of turpentine unless the odor should prove disagreeable, or it should chance to produce, as is sometimes the case, undue irritation of the skin. The turpentine acts as a moderate rubefacient, and whatever absorption occurs should affect the local disease favorably.

BATHING.—In the pneumonia of adults I am no advocate of the tub bath, but with children the disease presents two conditions where it is most decidedly useful. First, with high fever and restlessness peculiar to the disease, it will reduce temperature and produce, usually, some hours of quieter rest. Again, in the advanced stage, when cyanosis is marked and sudden asphyxia threatens, immersion in the warm bath, raising the child from the bath and pouring cool or cold water over the chest and repeating this for several times, will produce deep, spasmodic respiration, thereby clearing, temporarily, the bronchi and warding off, possibly, a rapidly fatal termination.

THE USE OF DRUGS.—In no acute disease, perhaps, are the possibilities of doing harm by an injudicious selection of drugs greater than here. The excessive cough and restlessness naturally suggest an anodyne, but anodynes, as a class, are strictly contraindicated (here again presenting a strong contrast to croupous pneumonia, where morphine is one of our most valuable drugs). They render the secretions more tenacious and difficult of removal, and by checking cough increase

the difficulty of respiration, hurry on the stage of cyanosis and invite a fatal termination. The cough, distressing as it is, is the salvation of the patient. I have found, however, that a syrup of chloral and codeine, in small doses, carefully watched, may be used sufficiently to procure a fair amount of rest without unfavorable results. The drugs that afford me the best results are, first, small doses of calomel and soda until the intestinal tract is surely free from offending matter, and in accordance with the dictum of the fathers the so-called "secretions" have been duly "regulated" and the always belligerent liver coaxed into a pacific attitude. Then muriate of ammonia, citrate of potash and benzoate of soda, given preferably in one mixture, alternated with another mixture containing carbonate of ammonia and tr. sanguinaria to which either tr. digitalis, or nux vomica, or both, may be added as the disease progresses and symptoms indicate. Nauseant expectorants are too depressing, as a rule; a little syrup of ipecac may be added to these mixtures during the early stages if deemed necessary, but the alkaline salts are usually sufficient. Right here, gentlemen, in view of the above prescriptions, I plead guilty to the charge of polypharmacy and will promise to reform when I find something that suits me better. Later, when the inflammation is resolving, syrup of hydriodic acid with syrup hypophosphites comp. makes an excellent combination to clear up the lungs and give the patient strength. Stimulants are of quite as much importance as in true pneumonia, and the best form is small quantities of brandy added to milk. These patients need frequent feeding, as the difficult breathing interferes with taking much at a time. Minute doses of potash bichromate, frequently repeated, are useful particularly in the later stages. The occasional vomiting, which is apt to recur, rather than being of unfavorable import, is most salutary, as it aids mechanically in cleaning the lungs of mucus. In fact, when these patients become cyanotic from deficient cough, if vomiting does not occur spontaneously it should be induced by some quickly acting and non-depressing emetic, like the zinc sulphate or turpeth mineral. There yet remains to be mentioned the most powerful ally we have as a therapeutic reserve against this disease. I refer to inhalations of oxygen gas. Useful as this agent is in croupous pneumonia, it is doubly so in the catarrhal form when the patient is simply being asphyxiated for want of oxygen. This has long been a favorite remedy in adult cases. Of its use with infants my experience is confined to a single case occurring the past summer. A little girl of about fifteen months developed a severe form of the disease. I made prognosis of a fatal result within twenty-four hours, when the mother, knowing that I prescribed oxygen in adult cases, begged me to try it with the child. In this case the respirations were not below 80 per minute nor the pulse rate below 160 to 200 for nearly two weeks. The gas was inhaled for about ten minutes out of each half hour day and night. The cyanosis and spasms of choking never failed to give way under its use after a few moments, but would reappear after a time when it was suspended.

I make no question at all about its saving the life of this patient. One practical point regarding its administration to children: They may be afraid of the apparatus and consequently intractable. We could do nothing with this patient until the cylinder and inhaler were draped with a sheet, the sight of the apparatus frightening her. Of course, these little patients cannot use an inhaling tube, the end of a small funnel can be pressed into the discharge pipe and so held that the stream

of gas is directed against the mouth and nose. It must not be supposed that I am recommending oxygen gas as in any way a specific for this disease—there is no such. The intrinsic tendency of benign disease is always to recovery, and the most that any drug can do is to hold in check morbid processes until normal processes can assert themselves.

Finally, gentlemen, if any concrete and useful thought is to be deduced from these abstract and desultory remarks it is, I venture to hope, this: That in the management of catarrhal pneumonia, the stronger emphasis we place upon the *catarrh*, and the less importance we attach to the *pneumonia*, the better will be our grasp of the disease and the greater our success in treating it.

MODERN TREATMENT OF SCARLATINA.*

BY PROF. F. P. HENRY, M.D., PHILADELPHIA.

SOON as the patient is suspected of being infected he should be isolated from contact with everyone except the necessary attendants. He should have a large, sunny room—a southern exposure is preferable, and the next best is a western exposure. The patient should remain in the one room for about six weeks and must be surrounded by a warm, dry atmosphere, which is hardly possible in other exposures. Before the patient enters, the carpet and all upholstered furniture should be removed, nothing left but what is absolutely necessary. The subsequent disinfection will thus be rendered comparatively easy.

During the first stages of the disease the room temperature of about 70° Fah. is desirable, but during the stage of desquamation it may be 72° or 74°, for at this time the renal condition is apt to supervene and it is best to have a warm, dry atmosphere. These precautions are of little use unless the physician regulates the quantity of bedding over the patients. There is a tendency to smother them, and I have seen patients with woolen clothing next the skin, then a flannel night-gown, and covered by blankets and one or two so-called comfortables. The patient should wear a cotton or light flannel night-gown, and be covered by a sheet, single blanket and white counterpane. If the temperature is at or near 70° this covering affords ample protection. During the eruption there is practically no danger of catching cold on account of the fever present. There is quite as much harm from having too much clothing in this stage as from having too little during desquamation.

The diet should consist of milk during the eruption and largely of milk during convalescence. The danger of nephritis is said to be less if milk is the food, but this is hard to prove. At any rate, milk produces very slight irritation in the kidneys. Water should be given *ad libitum*, and drinks may be given of lemonade, tamarind water and fruit syrups. Tamarind water we used to see given a good many years ago, and I think there is a tendency to revive its use. Stimulants should not be given as routine treatment, but may be useful with weak pulse, cold extremities, and extreme restlessness.

The toilet should not be neglected simply because the patient is in bed. In the ordinary cases he may have a warm bath daily of 90° temperature or more; or if this is not available he should be sponged with warm water and a little castile soap. This will promote the elimination of toxine through the skin. The mouth and throat should receive special attention, for it is through this channel that the disease gains an entrance to the lymph and blood streams. After taking any food the

mouth should be carefully cleansed. If it is an infant the mouth may be washed out with a rag soaked in a saturated solution of boric acid. An older patient may gargle with the same solution. If there is formation of a membrane the throat should be sprayed every hour or two with boric acid, carbolic acid, saturated solution of salicylic acid or thymol or peroxide of hydrogen. This last is a remedy of undoubted efficacy. When the throat symptoms are severe the atmosphere should be charged with steam.

Hyperpyrexia is a condition which calls for more active treatment. If the temperature remains for some hours above 105° you must make an attempt to reduce it. I would rather see a high temperature than a low one in scarlet fever as a rule, but if it remains at 105° there is danger to the tissues. The cold bath as it is administered in typhoid fever is the safest and most efficacious method of treatment. But it is objected to on the ground that it may produce a recession of the eruption. It is a popular prejudice and one that we can hardly overcome. We may substitute the cold pack or a warm bath to which cold water is gradually added. Considerable benefit is derived by the application of cold to the head—a rubber bag or a bladder filled with ice, or indirectly by an apparatus such as I have seen at the Woman's Hospital and have seen nowhere else. It is a tin receptacle for ice in the form of an arch; the base rests on the bed and the arch goes over the head. I am sure I have seen benefit from the use of this. The head is surrounded with cold air, and it induces a general fall of temperature. In all cases of hyperpyrexia there is more or less delirium or agitation. Bromides, valerian, asafetida and chloral are all used for this. The latter is highly recommended by Dr. J. C. Wilson, who employs it habitually in scarlet fever. Stupor is to be treated with alcoholic stimulants and carbonate of ammonia. Strong coffee is useful here and may be given with brandy, of which it is an excellent vehicle. Ammonium carbonate was once largely employed in scarlatina and was regarded as a specific. Prof. Erastus Wilson was a great advocate of its use; and you will find in his work on dermatology an excellent treatise on scarlet fever. It was believed to tranquilize the nervous symptoms. My experience had led me to think it useful. Quinia is another remedy for which much is claimed. Two grains are to be given every three or four hours in pill or suppository; the latter is about the only way it can be given in young children. The tannate of quinia was tested at the Episcopal Hospital on a large scale and shown, as I believe, to be almost inert.

During the eruption there is not usually much itching of the skin; but sometimes there is. Patient may be given inunctions with vaseline or lard containing 5-10% of carbolic acid. The Germans used to use bacon fat, but employ it no longer, I believe. Now we use any oily substance. I think a nicely prepared cold cream is about the best. In the desquamative stage these inunctions prevent the cuticular scales from flying about in the air.

From these remarks it is evident that while there is no specific treatment, much may be done to check symptoms of the disease, which if not checked may be dangerous to life. The treatment of the various complications does not differ materially from the treatment of those conditions existing independently.

A child should not return to school after scarlatina until desquamation is complete. The hair of the child and the skin should be scrubbed with carbolic soap. The hair should be cut off; it will fall out anyway.

*Reported for THE MEDICAL TIMES.

THE PREVENTION OF POST-OPERATIVE HERNIA.

BY DR. M. E. FITCH, PHILADELPHIA.

SO many factors enter into the consideration of hernia following operation-wounds that a thorough discussion of each is impossible in one article. The location and length of the incision and its course through the abdominal wall, the method of suturing, the presence or absence of drainage, healing by primary intention or otherwise, the time of removing the stitches, support by a bandage or other means—all these points have a practical bearing on the occurrence of hernia. The purpose of this article is to give, as briefly as consistent, the latest ideas and actual methods of the leading authorities in regard to the points mentioned.

The requisites of an incision, access to the part desired and avoidance of large vessels and nerves are best attained in the abdomen by a median, vertical incision. But another factor must be considered in this connection, namely, the liability of hernia to take place through aponeurotic scar tissue. Hence the median incision is being gradually superseded by others, the small blood supply which makes aponeurotic incisions desirable because of the small amount of hemorrhage at the same time leaving that tissue weaker than muscle. The same is true of the linea semilunaris which was formerly, and is yet by some operators, a favorite location for appendical incisions. The vertical incision in this line is not only objectionable because of the resulting scar being almost entirely composed of fibrous tissue, but also, as Woolsey points out, because it divides the tenth, eleventh and twelfth dorsal nerves. This weakens the rectus muscle, and thus the abdominal wall. This same objection holds for any vertical incision in the abdominal wall, and to avoid it as much as possible, oblique incisions are being used. Coley considers this the chief objection to Kocher's method of reaching the appendix by a vertical incision of the superficial layer of the sheath of the rectus muscle, the retraction of the muscle inward, and the incision of the posterior layer of the sheath in nearly the same line as the anterior one. He believes the method of McBurney, separating the muscular fibers of the different layers instead of cutting them, greatly reduces the liability to ventral hernia. By this means the nerves are practically uninjured and the resulting cicatrix is also firm. This method is especially applicable to interval cases.

Ramsey advocates a vertical incision through the middle of the rectus muscle for the following reasons:

1. The vascularity of the parts favors rapid and efficient healing.
2. The muscle is not injured by the separation of its fibers.
3. The umbilicus is not in the way.
4. It gives as ready access as the median incision.
5. The wound, if properly closed, greatly reduces the liability to hernia.

Woolsey concludes:

1. That abdominal incisions, except those close to the median line, should be obliquely transverse in order to parallel the nerves.
2. That intramuscular or transmuscular incisions even should be preferred to those in the linea alba or semilunaris.
3. That in place of the median vertical incision the intermuscular incision, near or between the border of the rectus, offers many important advantages.

No entirely satisfactory method of suturing has yet been devised, as is evidenced by the large number of

methods in use. Leaving out of consideration the different suture materials and their effect on primary healing, etc., it may be said in general that the method which most nearly secures coaptation of the different layers of the abdominal wall is the one that insures the strongest cicatrix. Abel, in seeking for an explanation of the greater frequency of hernia in women with fat abdominal walls, comes to the conclusion that it is because of the failure to secure approximation of the fascial layers during the closure of the wound. The interposition of peritoneum and fat between these layers is apt to occur when closing wounds of this character. Statistics show a marked difference in favor of separate fascial sutures as compared to the button suture used in the cases reported by Abel. The frequency of hernia also decreased with the thickness of the abdominal wall. He concludes in regard to this principle: "I believe the condition of the abdominal walls influences the strength of the cicatrix only so far as it renders easy or difficult the exact union of the fascial layers. At least this is true so far as post-operative hernia are concerned."

E. E. Montgomery has used the figure-of-8 stitch for over two years with very satisfactory results. The needle passes through the muscular layer and aponeurosis and peritoneum of one side, crosses and is brought up through peritoneum and muscle of the opposite side, and, again crossing, is brought out through the skin of the same side in which it entered. The other end of the suture is then threaded and carried up through the skin of the opposite side. The one loop thus approximates the edges of the peritoneum and muscular layer, each to each, and the other loop acts in the same manner upon the edges of the skin incision. Montgomery believes that a mistake is often made in removing the stitches too early. The eighth day is early enough, and if the patient is weak or debilitated he should remain ten or twelve days. Especially is this true of patients who suffer from nausea and vomiting after an operation. The wound suffers from the straining, and if the sutures are removed early, separation is very apt to result. He has seen a case in which the patient was unable to retain food for some time after the operation. The stitches were removed early, and a few hours afterward a cough loosened the whole wound. Abel believes that coughing and vomiting have no influence in the production of a hernia if the wound heals by *primary intention* and that after the wound is completely healed no further influences can militate against the resistance of the cicatrix. As to when healing is completed Morris claims that the peritoneum is fully healed in seven days, the muscular and fibrous layers in fourteen days, and the skin in eighteen days. Abel considers it absolutely safe for patients to get out of bed by the middle of the third week after operation.

Clark, of Johns Hopkins, in commenting upon Abel's report (*Progressive Medicine*, Vol. II), says that after long observation of the results of incision through the rectus and linea alba he is convinced that the location of the incision is immaterial, provided the fascia is firmly brought together and held so until perfect union has resulted. With their old method of closing a wound by a running silk or catgut suture to the peritoneum and interrupted through-and-through silkworm gut sutures to complete the closure, suppuration and post-operative hernia were by no means rare. The frequency of these was lessened by uniting separately the successive layers of the abdominal wall, buried silk sutures being used for the peritoneum and fascia, but a persistent fistulous

tract was established when infection did take place. Further improvement was noted when silver-wire sutures were substituted for the silk. Silver wire is not entirely free from criticism, as in some instances, though the wound may have healed per primam, the wires have worked out to the surface and have been spontaneously discharged or removed. However, it is emphatically stated that when silver wire is applied as a mattress suture it was only in the rarest instances that ventral hernia occurs as a post-operative sequel.

In placing these sutures Clark states that the essential point is to catch enough of the aponeurosis to firmly bring the borders of the fascia not only into complete coaptation, but also to slightly elevate them into a medium ridge. Only sufficient wires should be introduced to carry the tension, three or at most four, in a wound of four inches. Between these a sufficient number of catgut sutures should be introduced to bring the fascia into close opposition and to leave no point where the tip of the little finger may enter. Stress is laid on the importance of checking even the minutest oozing in order to secure primary healing. Another point of special importance is the avoidance of penetrating cutaneous stitches. The subcutaneous stitch of Halsted and Marcy obviates the danger of stitch abscess and also answers a cosmetic purpose, frequently being followed by only a hair-line cicatrix. The successive steps in the closure of an abdominal wound in the Gynecological Department of the Johns Hopkins Hospital is given, after stating that in by far the larger number of cases the incision is made in the median line, simply because it is easier. The method is given only as one of a number of good ones and is as follows:

1. Absolute control of hemorrhage, even to the minutest capillary oozing.
2. Continuous suture of the peritoneum with catgut.
3. Suture of the aponeurosis of the recti muscles with a sufficient number of silver-wire mattress sutures to relieve the wound of all tension (sutures, as a rule, 2.5 Cm. apart).
4. Catgut sutures between silver wire, sufficient to make perfect coaptation and leave no vulnerable point.
5. If subcutaneous fat is thick, a loose-running fine catgut suture to lightly bring it together and prevent gaping.
6. Subcutaneous catgut suture.
7. Dressing of silver-foil and gauze held with adhesive straps.
8. Abdominal bandage.

There seems to be no question but that the use of drainage favors the development of ventral hernia. McRae states that a very large proportion of cases of appendicitis operated on during an acute attack, with the use of drainage will eventually develop ventral hernia. Every case but one in which he left drainage for forty-eight hours or longer has a hernia. Harrington reports 236 cases in which the abdominal wall was examined from nine months to nine years after operation for appendicitis. Twenty-seven true hernias were found. Counting with these ten cases of punctiform hernia and fifty-three in which bulging of the scar occurred, weak scars were found as follows: In 85 closed wounds, six per cent.; in 88 partly closed wounds, fifty-one per cent.; in 63 open wounds, sixty-two per cent. Harrington's résumé is: Hernia and bulging occur frequently after operations for appendicitis, and are more common when drainage has been used. As little drainage-material as safety will permit should be used and when necessary at all, the wound should be closed as far as possible with sutures and the drainage removed early. Stout belts

and trusses are of little value in preventing hernia and may even do harm. The abdominal muscles from the earliest period possible after operation should be developed by appropriate muscular exercises.

The influence of drainage in the production of hernia adds interest to the question as to when this expedient is necessary. Coley (*Prog. Med.*, Vol. II) discusses the point at some length, especially Clark's views on the subject. Clark regards the cases requiring drainage as extremely limited in number. His objections briefly are (1) the drain produces traumatic and chemical irritation; (2) it delays wound healing; (3) it is not effectual. The peritoneum is the great means of removing material from the abdominal cavity and the drain handicaps it by disturbing the normal currents by setting up an inflammatory action about the drain, and by causing the formation of a wall of adhesions about it. He would limit the use of drainage to certain purulent cases of peritonitis, though it has been proved that even in these cases the drain is not always necessary. Coley does not subscribe fully to Clark's views, but gives Hartley's conclusions as being fully in accord with his own. Hartley, after stating that microbic infection cannot always be excluded in favorable situations, let alone already infected areas, continues: "We are never certain of having removed all infection; we certainly leave enough for the peritoneal resorption even when drainage is used. I cannot bring myself to believe that the abdominal wounds in these cases should be sewed up and the patient placed in a slight Trendelenburg posture to favor absorption. I think the peritoneum has as much as it can do to take care of what we leave behind without our imposing further burdens upon it."

The healing of the wound by first intention is of the utmost importance in the prevention of post-operative hernia. This is the second point on which Abel dwells with especial force, the first, as already noted, being the accurate coaptation of the fascial layers. Healing by primary intention may be considered the strongest prophylactic against the occurrence of hernia. Abel's figures show that not only the frequency, but also the size of hernia increases directly as the length of the continuance of suppuration. Here again the presence of an excessive amount of fat exerts a deleterious influence, as it is a well-known fact that patients with fatty abdominal walls are especially liable to suppuration. Although superficial suppuration is of much less importance than an extensive involvement, it should be carefully guarded against and even stitch-abscesses should be avoided if possible. The true value of the subcutaneous suture is shown in this respect.

Abel unreservedly says that the wearing of a bandage has absolutely nothing to do with the prevention of hernia, and gives statistics in proof of the assertion. However, he does not advise discarding it, for it may serve a purpose in preventing an increase in the size of a hernia should it occur, and its use will help protect the surgeon against the charge of negligence should a hernia follow the operation. Abel also states that the time at which a patient resumes work and the occurrence of pregnancy after operation have neither any part in the production of hernia.

In conclusion, it may be stated that Abel completely overthrows many of the preconceived ideas regarding the production of hernia and the effect of various factors upon the integrity of wound scars. In general, it may be said that statistics are of great value on the one hand, or they may be very misleading on the other. Abel's statistics, however, are peculiarly valuable because of their thoroughness. After almost inconceivable labor, he

traced all but five of 665 patients operated upon in the Leipzig Gynecological clinic under Zweifel between 1887 and 1894. Comparing these with statistics given soon after operation and incomplete in number, the great reliability of the former is easily understood.

THE TREATMENT OF ACUTE ARTICULAR RHEUMATISM IN THE MOUNT SINAI HOSPITAL.*

BY L. A. S. BODINE, M.D., NEW YORK.

IN the following brief summary of the treatment employed for rheumatic cases in The Mount Sinai Hospital, I have tried to adhere as closely as possible to rheumatism itself, and to make no mention of treatment used in any of the numerous rheumatic complications. In acute articular rheumatism, after a thorough clearing out of the alimentary tract with calomel and salts, our patients are at first put on sodium salicylate from 15 to 20 grs. every 4 hrs., with very frequently the addition of bicarbonate of soda; the latter drug being given to render the urine alkaline, and to maintain its alkalinity during the course and progress of the disease. Fluid diet, rest in bed, this with sponge baths for hyper-pyrexia, at a temperature of from 95° to 75° F., depending upon the patient's condition, constitutes the initial treatment of these cases. If for any reason the salicylates are not well borne, owing to tinnitus aurium, eruptions, or gastric disturbances, either the oil of wintergreen, or the citrate or acetate of potassium is used as a substitute. In nephritic patients neither the salicylates nor the oil of wintergreen are given. The bowels are kept open by cathartics, preferably salines, and enemata. Hyperidrosis is controlled by doses of belladonna or its alkaloid. To control or relieve pain, phenacetin, acetanilid, antipyrin and codeine are used; sometimes, but rarely, morphine. To induce sleep, trional, in combination with the bromide of sodium, is a favorite remedy. Sometimes chloral, chloralose, cannabis indica, or even morphine itself, is given. The diet during the acute stage consists of fluids only. Milk, strained soups, clam broth, cocoa, egg-nogs, milk shakes, ice cream, lemon and orangeades satisfy the patient much better than does a pure milk diet, and hence he takes his nourishment more willingly and frequently. Coffee in small quantities is also given, but if often taken insomnia is apt to ensue. Nitrogenous food is avoided as much as possible, and large quantities of water are taken daily. The salicylates are always given well diluted, and never, if it can be avoided, on an empty stomach.

Local applications of oleum gaultheriæ, salicylate of methyl, or guaiacol painted over the inflamed joints, and rubber protective bandaged firmly over them, seem to afford great relief to the majority of patients, and also exert a favorable influence on the inflammation. When a joint involvement passes the ordinary inflammatory stage, and there is a commencing effusion, local applications of tincture of iodine, uniform pressure by bandaging, cold in the form of ice bags, immobilization and elevation of the joint, if possible, are successively used to abort or inhibit the exudation. In spite of treatment the effusion may persist, and with it some elevation of temperature. In these cases the joint itself is aspirated in order to determine the character of the exudate. If pus or purulent serum is found, the case becomes a surgical one, and it is treated accordingly. In

those cases in which the effused fluid is absorbed, and there is a disappearance of all of the constitutional symptoms, there may still remain pain on motion, some periarticular thickening, and more or less ankylosis. In these cases local treatment seems to give the best results, and is the only treatment used, except the internal administration of the iodide of potassium. For local treatment we use daily baths of hot air at a temperature of from 200° to 400° F. for from twenty minutes to a half-hour's duration, hot salt packs, hot sand packs, local applications of iodine, galvanism, cataphoresis, passive motion and massage. In the majority of cases, iodide of potassium internally, combined with passive motion, massage, and the hot-air bath, have given the best results. What gives good results in one case does not always do so in another; so we may have to try a number of remedies before finding one suited to the case in question.

During the convalescent stage, particularly if the attack has lasted for any length of time, tonic treatment is instituted, most frequently in the form of iron, strychnine and quinine. The salicylate of iron is another remedy often employed. After the temperature has remained at the normal point for from forty-eight to seventy-two hours, the diet consists of eggs, bread, potatoes, toast and fresh vegetables, but no meats. In some cases in which the fever persists, and the patient seems to be suffering from malnutrition, it may not only be advisable but necessary to enforce such a diet at an early date. Meats are withheld until convalescence is well established, and are first given in the form of chicken or turkey. Absolute rest for all cases of pyrexia is required, and all patients are kept in bed for from two to five days after their temperature has reached the normal point.

Out of thirty-eight cases of acute articular rheumatism treated in this hospital during the past year twenty-nine left the hospital cured, and nine were discharged improved. Of these thirty-eight patients all but three had had salicylic acid in some form or other.

DISEASES OF THE LARYNX.*

BY DR. EMMA E. MUSSON, PHILADELPHIA.

IN acute laryngitis we can have any degree of inflammation. There is marked hoarseness, and this is a great deal due to inflammation of the inter-arytenoid space and paralysis of the arytenoideus muscle. The posterior part of the larynx then refuses to close and the air rushes in through the wide chink. The wet pack is the best form of treatment of this condition. You put them on as the patient is going to bed and allow them to stay all night. Steam inhalations also give the greatest relief. A favorite prescription of ours in these cases sometimes slightly modified is the following:

R Chloroformgtt. viij
Tr. Opii Camph.f 3 ss.
Tr. Benzoin Comp.q.s. f 3 ij
Sig. 3j in Oj hot water for inhalation.

I want the students to learn always to examine the larynx when symptoms point in that direction. It is often a vital question, and the examination is too seldom made.

Chronic laryngitis, aside from occupation, is frequently due to nasal stenosis and nasal pharyngitis. In the form due to nasal stenosis singers and speakers are obliged to pitch the voice higher to overcome the obstruction. This increased muscular effort results in

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*Lecture at Woman's Hospital, Nov. 20, '99.

congestion, and this may be followed by inflammatory changes in the larynx. There are several varieties of chronic laryngitis. One is trachoma or chondritis tuberosa. It is found in singers who are taught a method in which the edges of the cords are brought violently together. Of course the treatment for them is first in changing the method of singing or speaking, in vocal culture. In the granular form small pink points are dotted over the surface. Dry laryngitis is associated with atrophic rhinitis; there is a marked odor and we have ozæna laryngis.

Treatment of the chronic form means the removal of all nasal or naso-pharyngeal obstructions. In this country we do not have so much laryngeal trouble as there is in Europe, and this is probably because of our more thorough treatment of nasal conditions. In the case of singers, at once put them into the hands of vocal instructors. This is of great importance, and it is of special importance in schoolteachers, who come to you tired and worn out after their work, on account of using the wrong method of speaking. They know nothing about using the muscles of the diaphragm.

R Zinci Sulpho-Carbol. gr. v
Aq. q. s. ad. f 3j
Sig. Use in atomizer.

This is sprayed directly down into the larynx. Require your patient to sound "e" in a high tone, bringing the larynx up within reach of your spray. For the posterior laryngeal wall nitrate of silver, trichlor-acetic acid may be used, and great care must be taken in the application. The best method of applying to the larynx is by using the concealed probe of McCoy. A muscular tonic is frequently indicated, and I usually give strychnia. As the occupation may be a factor, many are obliged to give up work altogether for rest, just as you would rest an inflamed joint. Many of these cases are dependent on dietetic conditions, and you must then withdraw alcoholic beverages and other causes.

Laryngitis sicca, from trophic rhinitis, treat by spraying downward with peroxide of hydrogen. Having thoroughly cleansed in this way use thymol in the strength of ten to fifteen grains to the ounce. This is very stimulating. These cases of trophic rhinitis are very frequent in young children, and are apt to escape notice.

Tubercular laryngitis, or throat consumption, or laryngeal phthisis, occurs rarely as a primary disease. The prognosis is favorable when the disease is confined to the larynx, and there is no doubt it may be cured. I shall not in any way go over the constitutional treatment; it is exactly the same as for general tuberculosis. Locally we treat by first cleansing with peroxide of hydrogen, then using menthol spray, or inter-tracheal injections. Menthol—twenty to thirty grains to the ounce—acts as an analgesic and it has some power of reducing the inflammation. For local curative treatment after cleansing, and cocoainizing by a 10 per cent. solution, we use lactic acid, applying it and rubbing it in well. There is no doubt in my mind that it is absorbed and causes a certain amount of reduction of inflammation. But this does no good unless you remove the ulcers. This may be done with a curette, or the double curette of Krause, removing all ulcerating surfaces and all infiltrated tissue. Then apply lactic acid to the base and the ulcer will heal rapidly.

There is no excuse for not treating these cases. There always is one reason for doing it, and that is the very painful form of laryngeal tuberculosis. I have always said I would rather treat anything else in the world.

There is no reason why treatment of the larynx should not be done by the general practitioner simply because it is out of sight.

As to the diet: because of the dysphagia existing you must give bland foods. If the patient cannot take even these you must give some relief. Cocoainize with a five per cent. solution four or five minutes before eating. This must not be neglected. You may throw down a little powder of morphia. Another powder that has been lately used is orthoform; it gives a great deal of relief, and can be used three or four times a day without giving any constitutional symptoms.

THE NEWER TREATMENT.

REPORTED BY DR. M. E. FITCH.*

I. Treatment of Typhoid Fever in a Child.—Here is a small girl who was admitted September 26. She is seven years old. There is no positive family history. She is the only child; has never been sick but for one attack of measles. She came to the hospital for granular conjunctivitis, from which she had been suffering for the last two years. She was practically cured, so far as the eye condition was concerned, on Oct. 13. Then while still in the hospital, on Oct. 14, a rise in temperature was noted. And this shows the importance of taking the temperatures as a matter of course in hospitals. It isn't always done, but in the children's ward I think it should always be done. Her temperature was 99.6° in the evening. She complained of no pain. On the 15th the temperature was nearly 103°; on the 30th the temperature approached normal, but went up immediately afterward; it has been 105.2° on one occasion.

She has had high fever, then, of nearly three weeks' duration, when there has been no remission. She has remained conscious all the time. On Oct. 17th the diazo reaction of the urine was obtained, and on the 18th the blood responded to the Widal reaction, four days after the onset of the disease. This is unusual; I don't know that I can recall a case where the reaction has been obtained on the fourth day of typhoid fever, which this certainly is. She had one chill, on the 21st.

This girl has not been tubbed systematically. She had two tub baths on the 28th, at 1.30 and 10.30 p. m.; but some time after she became worse and sank almost into collapse. Her hands and feet were cold, her pulse almost imperceptible.

In a child of this age you can count with confidence both on recovery and on termination of the disease at the critical period, that is, at the end of three weeks. I think we can see the rose spots here. The spots are not so frequently seen on children as on adults. She had some tenderness of the spleen; the abdomen is soft.

There is another peculiar thing about this disease. I refer to the absence of leucocytosis, which is the case in typhoid fever and measles; so that, in very doubtful cases, this must be recognized as a positive aid in determining the nature of the disease.

It is an interesting point that the child has acquired the disease in the hospital. It is a curious fact; the same thing happens in other hospitals. Though she was forbidden to drink of the water running in the ward, probably for that very reason she drank of it.

For the treatment, you saw the ice-coil used commonly here for the application of cold over the abdomen. Anybody that could use a needle could make one

* From various lectures.

of them in short time. Ice-water is kept constantly passing through the coil.

There has been constipation in this case, and calomel and soda have been given as a laxative and intestinal antiseptic, and few are better than calomel. Quinia and asafetida suppositories are frequently given. She has had tincture of digitalis, three drops every four hours. She has been on liquid diet, milk every two hours. Part of the time she has had whiskey, one dram every two hours, and 1-80 grain of strychnine every four hours.

II. Ascites.—This patient has improved very much on account of the rest she has had here. I spoke last week of the tortuous condition of the veins of her chest, and have carefully examined her since with the view of detecting a mediastinal growth, but cannot make it out. I must say I have never seen so tortuous, large veins on the thorax without at some time later detecting a mediastinal growth. Again, there is the possibility that from the embarrassment of the circulation, which is great, the veins have enlarged from that cause alone without any direct pressure. The liver is much enlarged, and I believe this is due to a hypertrophic condition from long congestion; but as I said before, when you find a large accumulation of fluid in the abdomen alone, without involvement of the legs, you may make up your mind that the liver is involved. The ascites has diminished owing to the treatment pursued. The border of the liver is at least six inches beneath the edge of the ribs. She has been taking calomel and jalap as a hydrogogue cathartic, one dram daily. There are measurements here that prove the decrease in the girth of the abdomen. It formerly measured, in three places, 35 in., 36½ in., and 36 in., while the last measurements show a diminution to 32½ in., 33 in. and 32½ in. The heart is not beating so tumultuously, largely, I believe, because of the rest here. We should keep the bowels free with jalap and bitartrate of potash, which is said to be of great value in this condition.

III. Eosinophile in Case of Cardiac Disease.—I wanted to speak a word about the little girl suffering from chlorosis and cardiac disease, with regurgitation and mitral stenosis, a double murmur heard loudest over the apex. It was chiefly mitral stenosis. She has a curious condition of her blood cells, a persistent leucocytosis, but not of the ordinary kind. It is an eosinophile leucocytosis. These cells exist in scanty numbers in the normal blood, the maximum number being about 500 and the normal minimum about 100 to the cubic millimeter, or a percentage of two to four to the other white blood cells. Here the percentage is about 50% and on the last count about 70%; and it does not seem to be an indication of grave nature because the red blood corpuscles number five and a half million to the cubic millimeter. The hæmoglobin is not up to normal.

Do not suppose that this leucocytosis is a very extraordinary condition. It is extraordinary because we do not know how to account for it. Some investigators have found the eosinophiles to be increased in asthenia and in pemphigus and a great many chronic skin diseases, numbering 60% in one case of universal urticaria, and have found that it was very common in helminthiasis. In a case of trichinosis lately the percentage was sixty-eight. So you see it is found in a variety of circumstances. It may be found after taking certain

medicines. It occurred in two girls after the use of camphor. In a case of pemphigus a physician found in one of the blebs a large quantity of eosinophiles and no other leucocytes; then he applied a blister to the skin, and examining the fluid found not a single eosinophile cell. The conclusion, then, is that there is something in the fluid of pemphigus and other skin diseases which attracts the eosinophiles by virtue of a chemiotaxis. What attracts them we don't know; we believe there is something. The presence of these cells in the blood has some diagnostic significance. It is said to occur in malignant tumors and after the injection of tuberculin.

IV. Methods of Diagnosis of Gastric Carcinoma.—Here is a patient who complains of gastric symptoms and in whose abdomen it is possible to detect a mass to the left of the median line. She is forty years old, weighs eighty-three and a half pounds. Since last fall she has had indigestion, gas in the bowels, headache, heartburn, palpitation, and great emaciation, with atrophy of the breast. The abdomen is tense and hard, and the mass in the epigastrium is easily felt. The blood corpuscles number between two and three million to the cubic millimeter. I have told you over and over that this is a characteristic of gastric carcinoma. Other people are beginning to see it, too. There is no other one diagnostic symptom. The absence of hydrochloric acid is noted in other conditions. In carcinoma it is often present. The presence of lactic acid is no more diagnostic than the absence of hydrochloric acid. A man whom I know has written a treatise on carcinoma of the stomach, and he proposes another method of diagnosis in what he calls "curettage of the stomach." A rubber sound is introduced and moved along the stomach walls, and the stomach is washed out. The water brought up is put in a centrifugal machine and examined. If the cells show evidence of nuclear division or karyokinesis, it is a certain amount of proof of carcinoma of the stomach. The presence of a bat-shaped bacillus has been claimed as of importance. Most authorities believe that a case is past the operative stage when you can feel a tumor, but it is a question whether there are symptoms of the carcinoma until there is decided growth.

The use of an instrument carrying electric light into the stomach is of no use at all for diagnosis. It is claimed that if the tumor is on the anterior wall and if it is 1.5 cm. thick you will see a shadow. Such a tumor must be in a bad stage; and out of thirteen hundred of these tumors less than thirty are on the anterior wall. So what is the use of that method? There is another point; the X-ray has been tried. Of course the stomach wall itself will cast no shadow, while you may see liver and renal calculi. But following an ingenious idea, the patient is previously given an insoluble capsule made of keratin filled with bismuth. Now if the X-rays are used you will see these capsules; still you can have no idea where they are—in the stomach or intestine.

If the blood is examined for eosinophiles we may find them increased, as I said they were in malignant tumors.

—Professor Van Hook (*Med. Standard*) has divided the senior class at the North-Western University Medical School into sections of four each for work in dog surgery. Each section is under the supervision of a master of technique, and each student has the opportunity of performing several of the important abdominal operations.

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EDITORS:

EGBERT GUERNSEY, M.D., LL.D. ALFRED KIMBALL HILLS, M.D.

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All true opinions are living and show their life by being capable of change. But their change is that of a tree—not of a cloud.—RUSKIN.

"DEATH IN THE POT."

SUCH was the title of a treatise published in England in 1820, calling attention to the adulteration of food and its often injurious effects upon the system. Owing to chemical discoveries the facilities for adulterating food within the past few years have been much greater than ever before, from the fact that almost every variety of food is now put up in enormous quantities in cans, and spices of every kind, pulverized and sold to the public in small packages, so that their purity can only be detected by careful analysis. Some of these adulterations are comparatively harmless, simply decreasing the strength and value of the product, but others, which are more commonly used in the finer quality of goods, disguise their real condition, and by their drug action disturb the digestion and poison the blood.

An article in the *Lancet*, of April 22, speaks of meat extracts of "vile origin," showing they are sometimes made of putrid liver and offal, and that such filthy material is fabricated into a toothsome paste, the use of deodorizers and subtle flavoring material having been placed at the disposal of offalmongers by the advance of chemical knowledge. Of course cooking would destroy most noxious germs, but their products, the poisonous ptomaines, would remain and their presence in an extract would cause very serious symptoms of poisoning. The proceedings of the War Investigating Committee called the nation's attention to the action of adulterated food, and if it was productive of no other benefit it led to official reports in several States of the alarming extent to which the adulteration had been carried with well-localized cases of poisonous results.

Mr. Wells, the Pennsylvania Food and Dairy Commissioner, states that chemical companies have agents traveling all over the State selling to butchers chemicals

for preserving meat. The packages are labeled, telling how they are to be used. And some of them are used when the putrefaction has already commenced. In the last annual report of the Connecticut Experimental Station it is stated that of sixty-three samples of jellies, two-thirds were adulterated not only with starch and glucose, but with aniline dye and salicylic acid. Out of forty samples of marmalades and jams only three were pure. Of forty-seven samples of beer and ale twelve contained salicylic acid, and nineteen samples of sausages and oysters were found embalmed by boric acid. Salicylic acid as a food preservative has been forbidden by several European governments. Here it is largely used by canners and butchers. The Department of Agriculture found it in fifteen out of twenty samples of string beans, in ten out of twelve samples of baked beans, and in twenty out of forty-one cases of corn. Is it any wonder, in face of this adulteration of so many of the common articles of daily food, that so much dyspepsia and general derangement of the system, produced by it, exists to so large an extent in our populous towns and cities? Salicylic acid, the favorite preservative used, has been pronounced by the Paris Academy of Medicine not only provocative of, but especially injurious to, dyspeptics. The bodily sufferings of hosts of individuals for which no adequate cause is assigned are undoubtedly due in many, very many, cases, to the systematic food poisoning for the profit of dishonest dealers. The coal-tar products are used to a large extent in cheap confectionery and in the flavoring extracts of the kitchen. In a western hotel nearly all the guests became sick, and the cause was traced to the cheap coal-tar extracts used in the kitchen. To remedy this wholesale poisoning from adulterated food it has been suggested that a national food commission be organized with the power of examining manufactured products and testifying as to their quality, these products of food and drink to have on printed labels the contents of the packages. Every physician, if properly trained in laboratory work, would be entirely competent to determine the condition of every product of food or drink, as it regards adulteration, submitted to him. But to accomplish this more efficient instruction should be given in chemical analysis in our medical colleges, and questions introduced into the State medical examinations fully testing the knowledge of students in the action of drugs used in all adulterations connected with food and drink, and their ability to detect these poisons by the necessary unfailing scientific tests. The examination by the State Board of Examiners in this department of medical studies should be so minute and so exhaustive as to leave no doubt that the student was thoroughly competent for all the details of the work as it regards examination, and the medicinal action of the materials used upon the human system. We respectfully call attention of the Regents to the importance of this suggestion.

THE NATURE AND QUANTITY OF URINARY EXCRETIONS.

THE urine is to a certain extent recognized as an index to very many of the minor or functional disturbances of the system, as well as to some of the more important. By this we do not mean organic diseases, such as Bright's or diabetes, but to the chemical character of the urine and the amount excreted. The presence of an excess of uric acid, oxalic acid, bile and indican and an abnormal amount of urea and the phosphates with diminished or excess of urine point very markedly to a disturbance of one or more organs, and suggest the line of treatment. The presence of bile would, of course, show that the kidneys were doing the work of the liver, of indican that there was a lack of assimilation and more or less intestinal fermentation, requiring for immediate relief some form of antiseptic. An excess of uric acid would be likely to show itself in symptoms and conditions so distinctly marked as to leave no doubt as to the principal cause, while diminished urea reveals the fact that the system is being clogged and poisoned by the waste which should be excreted. In testing for urea, it is important to ascertain not only how much urea is excreted, but also how much remains in the blood, as the amount may be more or less according to surroundings and physical conditions. To do this a dose of iodide of potassium, if the kidneys are in proper condition, will be excreted in forty-eight hours; if it takes longer the kidneys are not doing their work properly, and too much urea is retained in the system. Clinical evidence shows that the kidneys may be functionally inactive in many of the forms of skin diseases and in the inflammatory type there is liable to be a lessened secretion of certain salts, a smaller amount of urine and a higher specific gravity.

Dr. Buckley, in a recent paper, gives a table for the calculation of the normal amount of solids for different body weights in healthy women in the daily secretion of urine as follows:

Weight.	Total urinary solids.	Weight.	Total urinary solids.
90 pounds....	500 grains	135 pounds....	815 grains
95 "	535 "	140 "	850 "
100 "	570 "	145 "	885 "
105 "	605 "	150 "	920 "
110 "	640 "	155 "	955 "
115 "	675 "	160 "	990 "
120 "	710 "	165 "	1025 "
125 "	745 "	170 "	1060 "
130 "	780 "	175 "	1095 "

Men excrete about one-tenth more than women, the amount in both increasing with much bodily exercise. After forty years of age the amount excreted of urinary solids diminishes at the rate of about five per cent. every ten years. Haines' modification of Hassler's method of obtaining the amount of urinary solids excreted in a day is to multiply the last two figures of the

specific gravity of the urine by the number of ounces voided in twenty-four hours, and add ten per cent. to the product. Thus, if the amount passed in twenty-four hours was 36 ounces, and the specific gravity 1.021, it would be $36 \times 21 = 756 + 10 \text{ per cent.} = 831$, the number of grains of solids in the whole amount. A comparison of the amount thus obtained with the table will make clear many of the symptoms which may exist and point to the remedy. Of course the microscope will fill a most important place in detecting the real character of the solids.

SUPRARENAL THERAPEUTICS.

THE therapeutics of the extract of the suprarenal capsules, which has been so actively exploited of late, still remains in much obscurity as to its value as a curative agent.

The only points demonstrated beyond question are that this tissue physiologically holds an important place in the maintenance of life, and its local application produces a wonderful effect in increasing blood-pressure, due it is thought to its effect upon the coats of the arteries, hence its usefulness as a hemostatic. The theories thus far promulgated in respect to the *modus operandi* have not been proved. It has been shown to be non-poisonous, is not cumulative, and it does not shock nerve centers.

Its chief uses clinically as a hemostatic to the mucosa seem to be favorable, but it soon expends its force and must be repeated. In this field thus far no objections have been filed against it, and it is considered reliable. It is also ranked as a cardiac stimulant rather than depressant, which is important. The uses to which it may apply are numerous and varied, so far as the classification of diseases is concerned, as we find it recommended in all affections of the mucous membrane, from hay fever to urethritis. Its influence in blanching tissues is said to be remarkably prompt and efficient.

The indications for internal use are not sufficiently defined at present to show us under what circumstances it should be administered. Its use is confined largely to surgical practice.

A NEW APHRODISIAC.

DR. STINSON, of San Francisco, in an article in the *New York Medical Journal*, speaks in high terms of the action of *echinacea angustifolia* as a local aphrodisiac applied to the mucous membrane of the glans penis corona, in from twenty to sixty drops. It acts as a tonic and stimulant to the local circulation, producing a mild, pleasant, tingling, penetrating, burning sensation. The glans becomes congested by stimulation of the vessels and sensory nerves of the penis and in from two to fifteen minutes erection occurs. One application is usually sufficient, but if necessary a second application should be made in fifteen minutes. The drug has a similar action as an aphrodisiac when locally applied to the female.

DIONIN AS A SUBSTITUTE FOR MORPHINE AND CODEIN.

UNDER this head the March number of *Merck's Archives* gives a very interesting account of dionin, which is a hydrochlorate of methyl-morphine (codein), with a similarity of action, but much more powerful and of longer duration, and free from the disadvantages which attend the administration of morphine or codein. While it is not as reliable in relieving severe pain as morphine, it has no disagreeable after-effects, and is far less liable to develop a habit. In fact, in the treatment of the morphine habit dionin has been found the most valuable of all its substitutes. Starting with doses about one-third more than the amount of morphine, to which the patient has been accustomed, it is gradually decreased as the condition of the patient warrants. From the fact that the solutions of dionin are neutral its hypodermic use is entirely free from pain. The drug is given in about the same dose as codein, from a third to a half-grain, its effects being more rapidly developed and are more persistent than the latter drug. In the treatment of affections of the respiratory organs it has been found much more efficacious in relieving irritative cough than opium, morphine, codein or even heroin, which has recently become so popular as a sedative, quiet sleep being produced and night-sweats reduced, yielding the beneficial effects of morphine without any of the unpleasant after-effects.

It has been found clinically that heroin decidedly slows the respiration, but at the same time the respiratory volume is decreased, and that these results are due to the decreased irritability of the respiratory center, produced by the drug. As a drug can only conscientiously be recommended as a pulmonary sedative, which, while relieving the irritation, does not at the same time restrict or depress respiratory activity, it would seem that in dionin we have found an agent more efficient in the relief of cough than morphine, codein or even heroin, with none of the danger of depressing the respiratory center, or disturbing the digestive organs, and what is of the utmost importance developing the morphine habit which so frequently follows the use of small doses. The action of morphine quietly depresses and lessens the excitability of the respiratory center, while dionin, like codein, acts upon the sensory nerve of the respiratory tract, but with more promptness and persistency, without at the same time affecting its normal activity or interfering disadvantageously with expectoration. Dr. Meltzer has given dionin in several mild cases of dementia in half-grain doses with very excellent effect. The patients were less influenced by their hallucinations, stopped picking at their clothes, no longer attempted to leave their beds, and ceased to exhibit faces indicative of their psychical condition. No unpleasant effects, such as frequently follows hyoscine in cases of high excitement, was observed. An excel-

lent influence was excited in cases of depression and excitement of a mild and medium character in enabling the patient to obtain sleep.

From the clinical experience thus far obtained it would seem that in the various forms of irritative cough, including the early stages of phthisis, in asthma, bronchitis, pharyngitis, and especially in the coughs of children we have found in dionin an ideal remedy, more prompt and effective as a sedative in relieving the irritability of sensory nerves, with no after unpleasant effect than any with which we are now familiar. After a more careful study of the drug it will, doubtless, find its proper place in the materia medica, which we think will be a very important one.

THE BOER AND BRITON.

THE war in South Africa has enabled us to draw a comparison between the physical and moral condition of a republic, isolated to a certain extent in the wilds of the dark continent, only a small part of which has yet been opened to civilization, and that of one of the oldest and most advanced in civilization in the world. The London *Lancet* in discussing the question states in the most emphatic terms that the physical and moral superiority of the Boer, man for man, is vastly superior to the Briton. The reasons are obvious. The Boer lives in the open air. The houses are far apart, necessitating long rides or walks to meet each other. He is comparatively free from temptation, and his life is in every respect, in business and socially, one of moderation. He knows nothing of the dissipation of the rich nor the squalor of the crowded tenement of the poor. The Boers are taller and stronger physically than the English, less nervous, more temperate and capable of much greater endurance. Even in cities the Boers practice the primitive rule of early to bed and early to rise. President Kruger goes to bed at eight and rises at nine. Drunkenness is comparatively unknown, and sexual diseases exist only to a limited extent. "How frequently," says the *Lancet*, "on the other hand are British soldiers incapacitated by sexual diseases and punished for drunkenness. No wonder that nearly every Boer is not only able to serve in war, but is healthier and stronger than the men picked for the army by our doctors. If all our male population between the ages of fourteen and sixty were called out, what a sorry spectacle it would make, compared with a similar Boer force. The British army is an infinitesimal minority of selected men, especially fitted to be soldiers. It is easy to imagine what would happen if all our men were called to arms. Victory in modern war is with the people who have the best sharpshooters. Psychologically that means the people who have the strongest nerves. To remain cool, quiet and capable in battle is the main requirement. To this must be added the ability to stand exhausting marches in which, doubtless, the countryman is better fitted than the townsman." The picture drawn by the *Lancet* of the two

peoples, the Boer and the Briton, is a most telling one, teaching a lesson of frugality, of physical training and of freedom from those vices which sap the strength of any community, which, if rightly read and practically followed will offset in real value, far more than the loss and suffering of the entire war. If England conquers and absorbs these little republics, which have shown such heroic valor, as she undoubtedly will, it will be by the power of numbers, accomplishing by the strength of its armies what it could not have done if the forces were in any respect numerically equal.

THE GRAPE CURE AT HOME.

FOR many years certain localities in Southern Europe, noted for the rich quality of the grapes have been much frequented by invalids, especially of an anemic or tuberculous character, for the benefit of what is called the grape cure. The grapes are daily consumed, under the direction of physicians, in carefully regulated quantities with such, in many cases, highly beneficial results that the cure is quite popular. Grapes really resemble vegetable milk, chemically similar to animal milk, always pleasant to the taste, and given at the proper time so easily assimilated as to rank almost with the predigested foods. The unfermented grape juice, which has been upon the market for a couple of years or more has become very popular, not only in the sick-room, but specially as a table drink, and yet by the process generally adopted in preparing and preserving it, much of the real value of the grape as a nutrient, and we might say as a curative, is lost. All this has been remedied by a new device now in operation in California on a large scale, in which the rich, sugary grapes with all their nutritive and medicinal qualities are converted into a concentrated extract, from which the fibrous and stony portion only have been removed. From a ton of grapes perhaps about thirty gallons result from a cold condensation process, which is pasteurized, bottled and sealed under vacuum. The whole operation, being a matter of minutes only, is complete before fermentation can start, and the grapes are thus actually conserved by the concentration of their own sugar and without the aid of alcohol, heat or chemicals. By adding three parts of water to one of the concentrated liquid we have really in the form of a drink all the nutritive and curative properties of the finest grapes in the world, just as they are picked in rich, ripe clusters, directly from the vines. Thus we have the "grape cure" brought directly to our doors and placed upon our tables for daily use whenever needed. Not the least of its benefits will be found in overcoming the desire for alcoholic stimulation. The Waterman Condensing Co., of 157 Broadway, has located its plant in the heart of the best vineyard districts of California, and the product, to which has been given the name of "Uvada Grape Extract," is becoming exceedingly popular wherever introduced. This process is not applicable in our Eastern vineyards from the lack of sufficient sugar in the grapes.

ARTISTIC PRESCRIBING.

THE use of tablet triturates in medicine has had much to do in advancing precision in prescribing. The single-remedy *vs.* polypharmacy is an important subject for consideration. Single remedies tend to more careful selection, for if we would expect favorable results, we must be sure that the drug is indicated. Hence the prescribing of simples leads to more careful study of the agents to be employed.

Shot-gun practice is not to be encouraged, as it leads to laziness and hap-hazardous work. Tablet triturates are not only convenient, they are, if properly made, precise as to dose, and agreeable to the patient.

It must be admitted, that compounds may be and are prepared in the form of tablets, but this should be discouraged as far as possible, if we would advance in therapeutic methods. It is the single-remedy tablet the use of which we are advocating.

The question at once arises, "How are we to become proficient in the art of prescribing?" There is but one way and that is to possess proper knowledge of diagnosis, with sufficient information as to drug effects to enable us to adapt the remedy to diseased conditions in such a way as to prove curative.

The subject of diagnosis is much better understood than the question of what will cure, which is just as important.

If we would become artistic prescribers, we must have a profound knowledge of the effects to be produced by the agents we prescribe. We must study each drug as an individual, until we are thoroughly conversant with its effects in larger and in smaller doses, at first confining our studies to the more characteristic points, then following out the finer shades as they will appear from closer investigation.

We shall be surprised to learn what remarkable results may be obtained from a single drug, when we once understand its use. We shall find that aloes in larger doses will relieve constipation, and in smaller doses will promptly and effectually eradicate hemorrhoids, but we must know which cases will be thus relieved, and a study of the drug will surely indicate this.

And thus it is with every drug in the materia medica. It is not as difficult a matter as it might seem, providing we apply ourselves as we must to any other profound subject which we would master.

But it must be mastered, if we would succeed.

OXYGEN FROM LIQUID AIR.

PROF. RAOUL PICTOT, of Geneva, one of the most eminent scientists in Europe, has perfected a method by which the oxygen and nitrogen of the air can be separated rapidly and at a very small expense. The process consists in forcing through liquid air, under the pressure of one atmosphere, a stream of atmospheric air; as this rises through the

liquid air it is so cooled that its component gases separate by gravity and run off in tubes, the oxygen through the lower and the nitrogen the upper tube. The carbonic acid leaves the machine as a liquid. Prof. Pictot has made a calculation that with 500 horse power, 500,000 cubic feet of oxygen, 1,000,000 cubic feet of nitrogen and 1,500 pounds of liquid carbonic acid can be obtained. A very ready market can be found for an almost unlimited amount of carbonic acid and of oxygen. Prof. Pictot thinks that the oxygen thus obtained will be largely used to support combustion at high temperatures in furnaces where coal is burned. In burning fuel with the oxygen of the air, there must be admitted to the furnace about three times the bulk of oxygen or nitrogen, and this absorbs a large quantity of the heat. By admitting oxygen he thinks 40 per cent. of the fuel will be saved.

BOARD OF CHARITIES.

THE thirty-third report of the Board of Charities of this State gives the number of beneficiaries in institutions subject to its supervision as 70,611. It recommends additional provisions for the feeble minded and idiots, and the removal of the House of Refuge, at Randall's Island, to the country. It speaks in terms of praise of the work of the Craig colony for epileptics, and thinks the experiment in the establishment of the colony has been highly successful. The former terrible mortality among the children on Randall's Island has been greatly decreased by the removal of a large number of them and placing them to board in families in the country.

D R. R. SACHS, of Hamburg, reports in the *Journal of Laryngology*, of London, an operation of the pharyngeal tonsil of a child, which was followed by death. The patient turned out to be a hæmophile, and the hemorrhage proved fatal.

This experience shows how important it is to enquire into family history, even before slight operations.

These cases, of course, are rare, but one never knows when he is to run on to such a patient.

* * * * *

The importance of investigating patients before operations, of any class, has recently been demonstrated in the case of a man who was about to be operated upon in this city for some post-nasal obstruction, a very simple procedure, died from the first few inhalations of ether, given because cocaine was not successful. This patient had been drinking alcoholics heavily, was in no condition to take an anæsthetic, and investigation would have shown this fact.

* * * * *

These cases recall the unfortunate result in the case of the late Col. Shepherd, whose life was said to have been sacrificed by neglect to investigate the condition of his heart, before administering the anæsthetic.

We are admonished by the above results to use

more caution with respect to patients, that we may not endanger life, in our attempt to save it. In two of these cases the operation was trivial, and the disease not dangerous to life.

THE *Marine Engineering Journal* for March contains an interesting description of the new disinfecting steamer "Sanator," for U. S. marine hospital service in Cuba. This vessel is said to contain the most complete floating disinfecting plant in the world.

The facilities for bathing are also extensive, and the ventilating plant will renew the air in all parts of the hold every five minutes.

The vessel is as complete as sanitation and engineering science can make it.

BIBLIOGRAPHICAL.

ESSENTIALS OF SURGERY, together with a full description of the handkerchief and roller bandage. Arranged in the form of Questions and Answers prepared especially for Students of Medicine. By Edward Martin, A.M., M.D., Clinical Professor of Genito-Urinary Diseases in the University of Pennsylvania. Illustrated. Seventh edition, revised and enlarged with an appendix. Containing full directions and prescriptions for the preparation of the various materials used in Antiseptic Surgery; also several hundred receipts covering the medical treatment of surgical affections. Philadelphia: W. B. Saunders, 1900; pp. 342; 12mo. \$1.00.

It is wonderful how rapidly these editions are exhausted and each one is an improvement on its predecessor by the numerous changes and additions which have been made. This edition contains a section on the modern treatment of appendicitis.

ELEMENTS OF CLINICAL BACTERIOLOGY FOR PHYSICIANS AND STUDENTS. By Dr. Ernst Levy, Professor in the University of Strasburg, and Dr. Felix Klemperer, Privatdocent in the University of Strasburg. Second enlarged and revised edition. Authorized translation by Augustus A. Eshner, M.D., Professor of Clinical Medicine in the Philadelphia Polyclinic; Physician to the Philadelphia Hospital, etc. Philadelphia: W. B. Saunders, 1900; pp. 441; octavo. \$2.50.

This is the only work published on the subject of which it treats, and it is an excellent one, the authors being favorably known for their original work in this department.

It is just the work for the general practitioner, as it will give him a working familiarity with a subject he is not expected to know very much about.

THE INTERNATIONAL MEDICAL ANNUAL AND PRACTITIONERS' INDEX: A work of reference for medical practitioners. New York: E. B. Treat & Co., 1900. Eighteenth year; pp. 748. \$3.00.

This is one of the best and most practical annuals published. The subjects are treated by over forty contributors selected for the purpose in a manner to show just what has been accomplished during the year.

It is a book that any practitioner can afford and none

should be without. The series of articles here printed cover the whole range of medicine and surgery, and contain a vast amount of original matter. There are also some very good illustrations.

OPERATIVE SURGERY. By Joseph D. Bryant, M.D., Professor of the Principles and Practice of Surgery, Operative and Clinical Surgery, University and Bellevue Hospital Medical College; etc. Vol. I., New York. D. Appleton & Company, 1900. 3d Edition.

Dr. Bryant's work is devoted exclusively to surgical anatomy and technique—which are clearly described and fully illustrated.

The illustrations form a remarkable feature, inasmuch as their number is so great, a rapid glance through the book is sufficient to enforce upon the mind a method of operation, or a point in technique, and so invite further perusal.

One thing especially good is the series of plates picturing instruments used in the various operations. This phase of description speaks for itself.

The range of usefulness is very broad, but the book will appeal rather to the practitioner and hospital interne than the student, the latter's time being mostly taken up in the study of pathology and diagnosis.

THE INTERNATIONAL TEXT-BOOK OF SURGERY. By American and British Authors. Edited by J. Collins Warren, M.D., LL.D., Professor of Surgery in Harvard Medical School; Surgeon to the Massachusetts General Hospital; and A. Pearce Gould, M.S., F.R.C.S., Surgeon to Middlesex Hospital; Lecturer on Practical Surgery and Teacher of Operative Surgery, Middlesex Hospital Medical School; Member of the Court of Examiners of the Royal College of Surgeons, England. Vol. II. Regional Surgery, with 47 illustrations in the text, and 8 full-page plates in colors. Philadelphia: W. B. Saunders, 1900. Pp. 1072. Cloth, \$5. Sheep, \$6.

The editors of this superb work offer no apology for the addition they offer to the excellent works already in existence in this department, and we see no reason why they should. There is certainly room for such works as this, in our rapidly advancing age, and especially for one which is untrammelled by many of the traditions of the past, and which is discriminating in the results of modern progress.

The aim has been to produce a reliable text-book, embodying a clear but succinct statement, based upon present knowledge, so as to form a reliable practical guide to modern methods.

In these days of special work, it is natural to expect that a book of this class, written by men who are special workers in particular lines, would give us material which could not be improved upon, and, by careful scrutiny of the editors, uniformity of standard and teaching has been maintained.

The work is so arranged that Volume I. is devoted chiefly to General Surgery, and Volume II. to the various branches of Special Surgery, a plan, we need not say, well adapted to the present needs of both the student and the practitioner.

It is only necessary to glance over the contents to convince one that the text has been written by authors eminent in their special lines, so that we possess practically an aggregation of monographs by specialists in the front rank of their respective departments.

Physically the work is a wonderful piece of bookmak-

ing, and how it can be afforded at the price we do not see. Mr. Saunders is certainly to be congratulated for his part in the undertaking.

SKIN DISEASES. Their description, etiology, diagnosis and treatment according to the law of the similars. By M. E. Douglass, M.D., Lecturer on Dermatology in the Southern Homœopathic Medical College of Baltimore, Md. Philadelphia: Boericke & Tafel, 1900; octavo; pp. 467. \$3.50.

The author says he has been prompted to prepare this work by a conviction of the existence of an urgent demand, and one which would embody the distinctive therapeutics of his "school." The work is intended, of course, only for the homœopathic practitioner, and he no doubt will find it of service.

The indications for internal medication are after the usual plan in this school.

INJURIES TO THE EYE IN THEIR MEDICO-LEGAL ASPECT. By S. Baudry, M.D., Professor in the Faculty of Medicine, University of Lille, France, etc. Translated from the original by Alfred James Ostheimer, Jr., M.D., of Philadelphia, Pa. Revised and edited by Charles A. Oliver, A.M., M.D., Attending Surgeon to the Wills Eye Hospital; Ophthalmic Surgeon to the Philadelphia Hospital; Member of the American and French Ophthalmological Societies, etc. With an adaptation of the Medico-Legal Chapter to the Courts of the United States of America by Charles Sinkler, Esq., Member of the Philadelphia Bar. 5½ by 7½ inches. Pages, x—161. Extra cloth, \$1.00 net. The F. A. Davis Co., publishers, 1914-16 Cherry street, Philadelphia, Pa.

The author says "to guide the expert and to make it easier to estimate accurately the damage caused by the injury to the individual the author has attempted to present a concise account of the traumatic lesions of the eye and of its adnexa, treating them especially from a prognostic standpoint." The work has been Americanized to accord with our conditions and uses.

THE FEBRUARY COMING AGE. Among the notable contributions in *The Coming Age* for February are "Educational and Therapeutic Value of Hypnotism," by R. Osgood Mason, M.D., A.M.

There are many other articles worthy of mention, besides the regular departments, which challenge the attention of all thoughtful men and women. The success of *The Coming Age* is well merited. It reflects the best thoughts of the time, and appeals to the moral no less than the intellectual side of man's life.

DISEASES OF THE NOSE AND THROAT, by J. Price-Brown, M.B., L.R.C.P.E., Member of the College of Physicians and Surgeons of Ontario; Laryngologist to the Toronto Western Hospital; Laryngologist to the Protestant Orphans' Home; Fellow of the American Laryngological, Rhinological, and Otological Society. Illustrated with 159 engravings, including 6 full-page color-plates and 9 color-cuts in the text, many of them original. 6¼ x 9¼ inches. Pages xvi-470. Extra cloth, \$3.50, net. The F. A. Davis Co., publishers, 1914-16 Cherry street, Philadelphia.

The book is written not so much for the specialist as for the student and general practitioner, who, as a general thing, are not thoroughly posted on the impor-

tant diseases of the nose and throat. The matter is clear, concise and directly to the point, and while it is not burthened with minute physiological and anatomical discussion which can be found in works on general medicine, further than relates to the practical treatment of diseases of these organs, the general practitioner will find in their actual diagnosis and treatment an intelligent and safe guide.

SURGICAL PATHOLOGY AND THERAPEUTICS, by John Collins Warren, M.D., LL.D., Professor of Surgery, Harvard University; Surgeon to the Massachusetts General Hospital. Illustrated. Second edition, with an appendix containing an enumeration of the scientific aids to surgical diagnosis, together with a series of sections of regional bacteriology. \$5, net. W. B. Saunders, Philadelphia, 1900.

The author has been very successful in associating pathological conditions with the symptoms and treatment of surgical diseases, thereby laying a foundation for good clinical work. In the present edition Dr. Warren has embodied all the important changes in a new appendix, which replaces the old one. In the new chapter, in addition to an enumeration of the scientific aids to surgical diagnosis, there is presented a series of sections on what may be termed regional bacteriology, in which are given a description of not only the flora of the affected part, but also the general principles of treating the affections they produce, based upon the latest views of the best authorities. Prof. Warren's high standing as a teacher, a writer and a practitioner are a guarantee of the intelligence and ability of his work.

THE ANATOMY OF THE BRAIN. A Text-book for Medical Students, by Richard H. Whitehead, M.D., Professor of Anatomy in the University of North Carolina. Illustrated with forty-one engravings. 6½ x 9½ inches. Pages, v—96. Extra vellum cloth, \$1.00, net. The F. A. Davis Co., publishers, 1914-16 Cherry street, Philadelphia, Pa.

This little work includes the divisions of the encephalon, its surface anatomy, internal anatomy and conducting paths. The discussion is so concise and clear as to form a very excellent guide in the study of the brain.

PROGRESSIVE MEDICINE, Vol. 1st, 1900. A quarterly digest of advances, discoveries and improvements in the medical and surgical sciences. Edited by Hobart Amery Hare, M.D. Octavo, 414 pages, 30 engravings and a colored plate. Lea Brothers & Co. Issued quarterly. \$10 per year.

The four volumes of Progressive Medicine, issued in 1899, have proved so popular with the profession that the same for 1900 will probably retain all the old subscribers, with a very large addition. The entire contents of the March volume covers a wide range of subjects scientifically and practically treated, and fully up to date.

TWENTIETH CENTURY PRACTICE. An International Encyclopedia of Modern Medical Science, by Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M.D. In twenty volumes. Vol. XIX, Malaria and Micro-organisms. New York, Wm. Wood & Co., 1900.

Five hundred and twenty-two pages are given to malaria by Ettore Marchiafara and Amico Bignami, of Rome, forming one of the most complete and exhaust-

ive treatises of malarial diseases from a scientific standpoint ever presented to the profession. An additional interest and value are given to the treatise by the abundance of microscopical illustrations with which it is prefaced.

The treatises on micro-organisms are by Dr. Simon Floxa, of Philadelphia, and Eugene L. Opie, of Baltimore, covering together about three hundred pages.

Dr. Opie confines himself exclusively to the *protozoa*, which form the lowest division of the animal kingdom, and includes those organisms which consist of a single cell. In the biological scale they separate the more complicated multicellular animals from the unicellular members of the vegetable kingdom. Altogether this volume is one of the most interesting and valuable of the series.

INTERNATIONAL CLINICS: A Quarterly of Clinical Lectures on Medicine, Surgery, &c. Vol. IV. Ninth series. J. B. Lippincott Co.

The object of this series is to present four times a year such clinical reports of rare and interesting cases as have come under the observation of the best medical experts of various countries. This, of course, brings a vast amount of very practical material to the medical reader in a very condensed form, and naturally the methods employed are apt to be the newest possible. The treatment of actual cases rather than compilations of authorities is the system followed, and the result is very satisfactory. The present volume is quite equal to its predecessors in point of interest and amount of material. W. F. H.

The Century Magazine commences its sixtieth half-yearly volume with the May number. The summer features of the *Century*, covering the next six months, will be rich in short articles and complete stories of more than ordinary interest. The July *Century* will be a story number; the August *Century* will be a richly illustrated holiday number. Andrew Carnegie, President Thwing of Western Reserve College, and Gov. Roosevelt will have articles in the May number.

DISEASES OF THE NOSE, THROAT AND EAR, by S. H. Vehslage, M.D., and C. De Wayne Hallett, M.D., Assistant Surgeon to the New York Ophthalmic Hospital. Bound in art canvas. 405 pages. Price, \$3.00, net. Published by the Boericke and Runyon Co., 1900.

This book is in two parts. Part I, The Nose and the Throat, by Dr. Vehslage; Part II, The Ear, by Dr. Hallett. It includes the anatomy, physiology, etiology, pathology and treatment of the various diseases, written in a clear and concise manner, amply illustrated, and showing a thorough familiarity with the subjects treated. We cordially commend the work to the profession as eminently scientific and practical.

—Carrier-pigeons have been utilized by physicians in France to obtain prompt news of their patients and a summons when desired, and Dr. Kaplan, of Janville, Eure-et-Loire, is now training pigeons to take back replies to the patients. The *Gazette Méd. de Paris* of January 13 illustrated the medical pigeon-house, and promises a full description of the method of training pigeons to accomplish "these truly elegant and even marvellous results."

CORRESPONDENCE.

"COLDS": THE TERM A MISLEADING AND MISCHIEVOUS MISNOMER.

Something like twenty odd years ago, the writer was a constant victim to colds, so-called. He was really a victim to flannels, having fall after fall procured underwear of heavier weight and all wool, in the determination to avoid chills and shivery sensations during the winter, if clothing could effect this desirable result. In consequence of thus blindly following in the almost world-wide superstition, that "colds" are produced by cold, and that their avoidance depended upon guarding the skin from contact with cold, he brought himself a trifle too close to a consumptive's grave to reflect upon his condition at that ancient time without a shudder. The principal "medicine" self-prescribed, which wrought a complete and permanent "cure," was the instant abandonment of underwear of every description. He had been all along a student of hygiene and all-round dietetics, and most of the theories which he then held, he has in a very busy practice during the past sixteen years proved to have been grounded in truth; in fact, practically every one, except the flannel craze. In this he was simply a blind follower of the blind.

I, to come down to first person singular, had not at that time read Hittell's History of California, in which he relates how the aborigines began to die off with pulmonary disorders as soon as they were converted to the Christian religion and—clothes; nor had I learned that the total disappearance of the aborigines of Tasmania (a hardy and prolific race, which had continued to thrive and multiply in face of endless abuses ushered in upon them from the ingress of the English in large numbers) was due to the same cause. The Tasmanians got on very well in spite of rum, tobacco, and all manner of evil associations, including even massacres, but when they became so hedged in by civilization that they were compelled to wear clothes, they died off like sheep with the foot-rot, pulmonary diseases having been conspicuous among the diseases of which they died. The last of the Tasmanians was buried about the year 1838.

An uncle of mine, who went to Australia in 1852, clad in all-wool flannels from neck to heels (by the advice of the family physician), shortly began to decline in vigor. He was naturally a robust fellow; born of long-lived stock; had been reared without underwear, as had his eleven brothers and sisters, because the parents were too poor to supply two suits of clothes apiece; a brilliant young lawyer, who became quite a "high roller," and so lost his practice, and went to the gold fields to make a fortune. As I was remarking, he found his health deserting him, and he concluded to consult a doctor, and as good luck would have it, he found one, an old native practitioner, who knew something about clothes!

My uncle had taken his fast habits along with him to the new country; he was a heavy smoker, and not a very light drinker, and he knew no more about diet than an army mule, or the average medical man, and he fully expected that the old doctor would shut off his rum and tobacco, and tone him down in his feeding, and, naturally, that he would be cautioned against exposure to cold, etc. The old doctor looked him over pretty carefully, questioned him closely as to his living habits, to which the patient replied conscientiously. What was his surprise, then, when the doctor, who had

found how he was clothed, after bearing very lightly on the matter of regimen, suggesting that he hedge somewhat in his rum and tobacco habit, wound up with "Take off them damned flannels, and you'll get on all right!" He took this advice, recovered his health, and on returning to his native State (Maine) he continued to live winter and summer in one suit of clothes, and died recently at the age of near eighty.

"I shall not attempt to explain," wrote Dr. Benjamin Franklin, one of the wisest men who ever lived ("Essays," p. 216), "why damp clothes occasion colds rather than wet ones, because I doubt the fact. I imagine that neither the one nor the other contributes to this effect, and that colds are totally independent of wet, and even of cold." In my soldier life in Maryland, Virginia and Louisiana, I had plenty of opportunities to prove Franklin's theory; only I had no hint of it at that time. Sleeping on the ground, in rain and cold, often wet through and drying our clothing on, I never heard of a soldier catching cold at such exposures; but every old campaigner will bear me out in the statement, that whenever we got onto what we fancied "a soft snap," detached service, well housed and bountifully fed, we shortly found ourselves suffering from "colds!" My first summing up of the "colds" question was contained in a contribution to the *Popular Science Monthly* for January, 1884, entitled "Catching Cold." This article excited at the time a great deal of attention, and was very widely reprinted by the newspaper press throughout this country. A few years later, at the request of the editor of a New York health journal, I rewrote and extended it somewhat, and it was reprinted in pamphlet form, of which several large editions were sold. It is now out of print, I believe.

The pith of the matter is that "colds" is a filth-disease, pure and simple, and is due to almost everything except what the name implies—to lack of cold, lack of the habit of exposing the skin to its only natural stimuli, shocks of cold, or of alternating heat and cold, such as it receives when not unduly sweltered in many folds of clothing; to lack of sufficient exercise and care in the selection of appropriate food and moderation in amount eaten; to lack of sufficient ventilation of living- and sleeping-rooms, etc., etc. When the outburst reaches a certain stage, we now call it "grip," and it is, unfortunately, commonly regarded as an infectious, or even a contagious, disease, and the profession generally has been for some years back, and is at present, on the hunt for the "grip germ," and the appropriate serum for its "cure."

Of what avail, the most careful diagnosis of a disease, if the chief element thereof, its real cause, be omitted, or, worst of all, be utterly mistaken? If the attending physician attributes any given disease to precisely the opposite cause, instead of the actual one, how can he prescribe intelligently and curatively? And this, in my sincere opinion, represents the exact status of influenza-fever ("grip") and the prevailing treatment, and fully explains its terrible mortality. Every grip epidemic occurs in winter; but never during steady cold weather, when the cold can reach through to the skin of the worst beflanneled molly-coddlers, if they venture out of doors. If they remain housed with sufficient "care," they are likely to have an attack, of course. It is always during a protracted term of unseasonably warm weather in winter, when people are groaning under the weight of flannels and don't know enough to strip down to warm-weather dress, that influenza-fever gets in its heavy work; and with the help of drugs, and

advice to stay indoors, keep warm, and to practice forced-feeding, the death-rate goes up with the mercury!

The beflannelled editor of a local paper perpetrates two paragraphs on April 22, after several days on which the temperature had been near 80 F. in the shade, as follows: "The depressing weather of the past few days makes one sigh for the sea-shore or the mountains where a little cool comfort would be possible;" that is to say, where he can indulge in winter diet and wear two heavy suits of clothes without danger of dropping dead from heat-stroke; and a little further down the column, this: "Still, you'd better stick to your winter flannels till they stick to you, an old maxim worth remembering!" Such advice tends to give the doctors plenty of business, hence we can't complain at this sort of newspaper medicine; but it is well enough for us to avoid the folly, even if we can't afford to set the laity right in their living habits. A cold-storage warehouse is the safe resort for a city dweller encased in woolen flannels under an ordinary suit in warm weather.

North Pole searchers blunder in their mode of dress, wearing all-wool and heavy-weight flannels, and in their hard marches become sweaty, in spite of a temperature of forty or fifty below zero, and later their wet flannels freeze on them, so that they crawl into their sleeping-bags at night encased in sheet ice, so to say. There they shiver and shake with cold, till after a time the ice melts, the wet flannels become warm, a sweet sleep comes to the tired travelers from which they wake with clothing perfectly dry, and without a trace of "a cold." Mrs. Peary observed, as we learn from her account of her northern experiences, that none of their party ever had colds, so long as they were roughing it in the manner above described; though the women and others often suffered from the disease when they remained housed up for any length of time. But, on returning to a warmer climate, and, still sticking to their flannels, not one of them escaped severe attacks, naturally enough, as we might conclude from a careful consideration of the foregoing argument.

CHAS. E. PAGE, M.D.

154 Tremont street, Boston, Mass.

EIGHTY SUCCESSIVE CASES OF STACKE'S OPERATION.

Dr. Percy Jakins (*Lancet*, Feb.), gives these cases as the result of his work in this line for the past three years. He premises that all procedures are to be considered exploratory until the cavity of the antrum has been entered, as no one can foretell with certitude what will be revealed. Practically speaking Stacke's operation consists in laying open the mastoid antrum, and any disease of the mastoid walls connected with it, opening the aditus leading from the antrum to the attic of the tympanum, cutting away all the overhanging bone, removing the posterior wall of the osseous meatus; and in some cases removing the malleus and incus. All morbid products such as cholesteatoma, pus, granulation and diseased bone are then removed, the cavity thoroughly cleansed and disinfected, the cartilaginous meatus slit and the upper and lower flaps cut away. The writer states that 44 cases of Schwartz's operation might be added to this number, as a similar procedure except that the posterior wall of the meatus is left intact.

The indications for the operation, besides the persistent discharges, were the presence to a greater or less extent of pain in the affected ear or corresponding side

of the head, vertigo, nausea or vomiting, general malaise. In some cases there was mental lassitude and a sullen demeanor. In most of the cases the following were present in one or more particulars: Polypi or granulations in the tympanum, tenderness over the mastoid process, with or without swelling, bulging downwards of the posterior and superior wall of the meatus and the adjacent part of Shrapnel's membrane, facial paralysis, caries of the ossicles, or dead bone felt with the probe in the cavum tympani. In several cases it was necessary to lay bare the dura mater in the middle fossa of the skull, to a greater or less extent, by the removal of the lamina of necrosed bone in the roof of the tympanum. The lateral sinus was sometimes exposed by removal of a portion of its bony walls. While the restoration of hearing was a secondary consideration in advising the operation, it was gratifying to report that the hearing was seldom rendered worse by the operation, while in many cases it was materially improved owing to the removal of the granulation tissue, pus or other debris, which had blocked the entrance of air into the tympanum.

Of the 80 patients, 45 were females, in 49 cases it was the left ear which was involved. The average age was 20 to 21 years, the youngest 14 months. The average duration of the suppuration, where it could be ascertained, was 12½ years. Thirty-nine had vertigo, 19 recurrent polypi, and 17 swelling over the mastoid process, while 5 had facial paralysis before the operation, and 6 mental disturbances. In two cases the operation was attempted on account of epileptic seizures which had been established, the conditions found justifying the operation; one case was cured, the other was without relief. In two cases there were complications of septic phlebitis of the lateral sinus and internal jugular vein, and in three cases extra dural abscesses. Cerebral and cerebellar abscess in one case each. The middle fossa was exposed six times, and the groove of the lateral sinus laid bare in some part of its course, 14 times. The cerebral abscesses were successfully drained, and in one fatal case the internal jugular vein was tied. In two cases facial paralysis appeared after the operation, but disappeared within nine months. The results were successful in every case with the exception of three which were practically moribund when the operation was attempted. In the successful cases the threatening symptoms quickly disappeared, and the change from sullen stupidity to lively intelligence was noteworthy. His experience leads him to the opinion that it is safer to operate at an early period of the suppurative condition, should there exist any of the enumerated indications for it, rather than to wait until the processes have had time to produce signs more threatening, and a greater probability of infecting some of the intracranial contents. (We had the pleasure of witnessing several of these operations, while visiting the Central Throat Hospital last summer, and can indorse the statements of the marked relief furnished the patients —T. M. S.)

—Professor Krolkowski publishes, in a Polish paper, the results of extensive tests which show that the best method of keeping rubber articles is in a 1 per cent. solution of formol or zinc chloride or a concentrated solution of boric acid. Red rubber keeps better than black, he asserts, other conditions equal. Rubber articles, he adds, should never be left exposed to the air or the action of cold.

TRANSLATIONS, ETC.

A CONTRIBUTION TO OUR KNOWLEDGE OF JOINT DISEASES IN HÆMOPHILIA.*

BY DR. E. LIGORIO,

Assistant in the Surgical Department of the Clinic for Children's Diseases, at Florence, Italy.

December 29, 1897, N. V., æt. two years, was sent to the Pædiatric Clinic, of Florence, with the diagnosis of arthritis of the right knee. As it often happens in our service we received the patient without the slightest notice as to his past history, nor was it possible to obtain any information from his parents who, living far away, did not appear with him. Several letters were sent to them, but getting no answer we shall have to be content with his present condition.

His general condition and nutrition are good, his skin rosy, with the cutaneous veins quite evident, the mucous membranes pale, his hair a whitish-blond, eyes sky-blue and his general features very delicate. Nothing special was noted in our examination of his chest, abdomen nor organs of sense. His right knee is swollen, especially on the inner side. The overlying skin is normal, but on palpation a slight elevation of temperature is felt. The knee is in semi-flexion from contracture of the muscles of the back part of the thigh. Active or spontaneous motion is impossible and passage is painful. The lower epiphysis of the femur is enlarged, and on pressure on the condyles, particularly the inner one, the child experiences severe pain. Around the patella there is an elastic swelling as though from fungous tissue.

These facts led us to conclude that we had a fungous arthritis, with an associated chronic osteomelic area in the lower condyle of the femur. Awaiting returns from the child's parents, we applied a starch bandage to immobilize the leg as much as possible.

The local process did not seemingly improve under this treatment, the temperature remaining constantly above the normal, 37.2° in the morning and 37.7° in the evening, while the general condition of the child began to suffer; therefore arthrotomy was decided upon, and Professor Bajardi directed me to perform it.

January 26, 1898, under chloroform anæsthesia, after preliminary application of Esmarch's bandage, an incision was made extending from the upper margin of the internal condyle of the femur downwards, and curving around the lower border of the patella. The condyle being exposed, a trial opening was made with the gouge, but the bone was found to be wholly normal. The joint once opened the synovial membrane was seen to be a little thickened, and scattered over its surface were patches of a bloody appearance. The ligaments appeared to be of the same color as though they were covered with a thin layer of pigment. The articular cartilages were normal and of a healthy color. Two small pieces of the synovial membrane were excised and placed in alcohol for histological examination. The bursa patellæ was also opened on account of its contents being somewhat higher than normal in tension, but nothing notable was found. The cavity of the articulation was irrigated with a bichloride solution, 1:100, its walls wiped off with iodoform gauze, capillary drainage employed and the wound closed. A compressive bandage was applied and the elastic bandage removed, the limb being placed in an elevated position.

*Translated by Dr. Frank H. Pritchard, of Monroeville, Ohio, from *La Settimana Medica*, No. 38, 1898.

The absence of any inflammatory reaction or complication made us drop the diagnosis of tubercular arthritis and look upon the case as dependent upon traumatism as the cause, with a slowly absorbed extravasation into the joint.

The temperature after the operation did not undergo any notable changes, it reaching 38.4° during the first five days following, to return to the curve first mentioned. But then something painfully surprised us and placed the little patient's life in danger.

The morning after the operation it was noticed that the dressing had a large blood-stain on the outside. I suspected that this had oozed out in consequence of vaso-motor paralysis from using the Esmarch bandage during the operation, or that some little artery had been overlooked in ligating. In removing the dressing the wound was found in good condition, and as no more blood exuded another dressing, slightly snug, was applied. As it was observed that the child's urine was somewhat bloody it began to dawn upon me that possibly something different was in question, and he was placed under careful surveillance.

From the 28th to the 30th of January all went well; the urine was free from blood and the danger was thought to have been passed, when on the 31st the dressing was again soaked with blood. It was taken off, and at the upper margin of the wound a little artery was found bleeding quite profusely. The borders of the wound were noticed to have retracted somewhat, and a few sutures had not held. The bleeding vessel was caught up and the usual aseptic dressing reapplied. The child in the meantime appeared to be restless and very weak; he could not be gotten to eat, but he did not complain of pain nor anything special in the region of the wound. Examination of the urine revealed traces of blood.

Then followed another quiet and uneventful interval when the child became quieter; the temperature fell and rose between 37.3° and 38.2°. A dressing applied on February 5 only was discolored by a little blood. On the evening of the 7th the nurse found the dressing soaked with blood. I was notified immediately, and on opening the bandages I found that the depths of the wound bled profusely, apparently a capillary hemorrhage which would not yield either to hot irrigations of a bichloride solution or compression. Finally, a solution of the perchloride was applied on cotton to certain points of the wound, which, together with a packing of iodoform gauze controlled the bleeding. On the eleventh the same state recurred, but less intense, which was controlled by hot irrigations of a bichloride solution and compression with iodoform gauze.

From then on there was no more hemorrhage and the wound commenced to granulate regularly, but the child suffered slightly from epistaxis and a few ecchymotic blotches were discovered on its body. The general condition of the patient under tonic treatment improved and the dressings were renewed without anything eventful. By the middle of April cicatrization was almost complete, but the right knee was always larger than its fellow, and was fixed at an angle of 130 degrees; the flexors of the thigh were felt to be tense. Then it was noticed that vascular resistance must have diminished, for while before the operation the compressive bandages and attempts at reduction had never given rise to ecchymoses, but now wherever the bandage pressed it produced livid marks. This and the fear of new complicating inconveniences dissuaded us from attempting any maneuvers to reduce the articula-

tion until the wound had fully cicatrized and the scar had become solidified. During this period the temperature was always above the normal (38° in the evening and 37.2° in the morning). Repeated examination of the digestive and circulatory apparatuses did reveal any morbid processes which would justify this elevated temperature. Besides, the child felt cheerful and as well as before. On the twenty-fifth of April he was transferred to the ophthalmological department, on account of a simple conjunctivitis. In a month he was returned. The wound in the knee had healed well, but the limb was fixed in the same position. But there was no pain, and the child hopped about with the others, without suffering. His mother then returned to get him, and from her we obtained several notes which went to prove our diagnosis of hæmophilia. On the side of the father there were no traces of hereditary disease. His father is healthy. Virgilio is the fourth child, he was nursed by his mother. He always enjoyed good health and but every little while he would suffer from nose-bleed, which, however, had not been severe enough to endanger life. The fall before the knee had rapidly swollen, with pain on motion. With rest the swelling slowly decreased, but it left a stiffness and a contracture of the joint as at present. He never had had any fever. No traumatic lesion had preceded the disease.

One of the brothers of the child had died in consequence of a hæmorrhage, from a slight cut of the upper lip, which he had received in falling. Another had suffered from severe hæmorrhages and the least pressure upon the skin still causes hæmorrhages; the sister is healthy. This fact was of importance and though it explained the state of the brothers the history of the mother's parents could not be obtained, as she was ignorant of them. Histological examination of the excised pieces revealed in the substrata of the endothelia an infiltration of granules of brown pigment of hæmatic origin; no traces of specific inflammatory processes were to be detected. Therefore a diagnosis of hæmarthrus of the right knee-joint in a hæmophilic subject was assured.

This case was presented by Prof. Bajardi twice to the students during his lectures on pædiatric surgery, and I report it to show how easily one may confuse it with the white swelling, and where the diagnosis is of capital importance, for the treatment is quite opposite.

Hæmophilia, which was almost unknown until the end of the past century, began to interest physicians in the first years of the present one. At first it was classed together with other hæmorrhagic forms as purpura, when attention was directed to the hereditary transmission of this state, and Grandidier—Die Hæmophilie Oder Die Bluterkrankheit, Leipzig, 1877—in which he gathered together valuable data and established rules, which to-day are recognized as exact. This author studied and gathered notes on two hundred hæmophilic families. He noticed that out of 657 persons affected with the disease 609 were males, and only forty were females; this disproportion (93%) of males demonstrates the greater liability of that sex. Another important fact he also deduced. He found that though the disease is transmitted to males they do not again transmit it to their sons, while women of hæmophilic families, yet they themselves not hæmophilic, give birth to hæmophiliacs though they marry healthy men. Therefore, the woman, though herself not presenting the same tendency to become affected, is the principal agent of diffusion.

However much the disease interests the physician

and pathologist it is none the less important for the surgeon from the practical point of view, who may be caught up in a painfully surprising manner and at the same time subject the patient to grave dangers, even from a slight operative procedure. Therefore, it is of prime importance and necessity to know something of the antecedent history of a case before operating, for an incontrollable hæmorrhage may carry the patient off and the physician be the indirect cause of the patient's death. Sumers, Medical Record, 1896, reports a case of death from acute-anæmia in a child of ten years—a boy, who was operated on, and a resection of the knee-joint done, without knowing that he was a hæmophilic. Thiersch, Tenth Congress of German Surgeons, also refers to a hæmophilic of thirty-seven years, where he extirpated a sebaceous cyst of the size of a small nut from the malar region. He ligated the blood vessels during the operation and thought that he might stop the capillary hæmorrhage by suturing, but that was not sufficient and he tried compression with the best possible kind of a base, the zygoma, but besides producing very severe pain the compression gave rise to ecchymoses wherever it touched. It had to be taken off. The oozing continued and on the ninth day a small artery began to bleed, which was stanchd with hæmostatic cotton, and on the eighteenth an erysipelas appeared about the wound and spread over the face. It had the beneficial effect of permitting the wound to close. Amongst the various changes which are found in hæmophiliacs we wish to consider the joint-involvements and particularly those of the knee. The first description of an articular lesion is found in an observation by Lebert—Medico-Chirurgical Review, 1838—who speaks of an "aneurysmatic tumor" produced in a hæmophilic, who had dislocated his thumb. Then there follows a necropsy, which was taken from a thesis, in which case "the whole synovial membrane of the knee-joint was covered with reddish pigment"—Lemp; De Hæmophilie, Berlin, 1857—Then follow along other descriptions, but little detailed in this regard, which are found in the works of Horand—Lyon Medical, Dec., 1871—Assmann, Reinert, etc., but in all these they speak of vast extravasations of blood into the articular cavities and mostly of recent date.

The great merit of having distinguished these arthropathies from those of rheumatism and pseudo-rheumatism, with which they are often confused and of having traced them to hæmophilia, studying the mechanism of their formation, belongs to Kœnig. Bokelmann—Inaugural-Dissertation Goettingen, 1881—described a case which came into Kœnig's clinic, in that city, and in 1892—Kœnig—Sammlung Klinischer Vorträge, 1892, No. 36—returns to this subject and calls attention to the great resemblance of tubercular arthritis-fungus or white swelling—with these hæmophilic joint affections, a resemblance in some cases so great as to render an error of diagnosis easy. He differentiates three stages of these arthropathies:

1. Hæmorrhages into the articulation (hæmorrhagic spots, true hæmarthrus).
2. Stage of inflammatory reaction, œdematous swelling, faulty position of the joint, muscular atrophy, sometimes pain, but no increase of local temperature, but without formation of abscesses.
3. Stage of retrogression in which the contracture of the joint and the ankylosis are augmented.

It is often noticed in the majority of the cases that the extravasation is absorbed during the period of reaction, and the whole process disappears, leaving a slight impediment in the joint which yields in time.

Koenig in several cases found the articular cartilages colored a reddish brown, and at various points of the erosions through the whole substance of the cartilage there were coagula undergoing connective tissue organization. With such lesions it is easy to understand how ankylosis is possible. Some writers call attention to the enlargement of the epiphyses of the different joints affected, and especially of the femur, ankle-joint and humerus. Koenig, on the contrary, attributes these enlargements to the thinness of the investments of the joint, and regards it as apparent rather than real. In our case I called attention to this apparent increase of size of the condyle of the femur, which led us to think that a focus of osteo-myelitis had developed there. Pressure on this part, as was mentioned, was painful.

Another very important work on this subject was that of Linser—*Beiträge Zur Kasuistik Der Blutergelenke: Beiträge Zur Klinischen Chirurgie*, Vol. 17, 1896—who describes three cases, observed in Prof. Bruns' clinic. In our case the previous history of the mother's family is unfortunately lacking, and we must commence with the mother's side, who presents the following picture: father and mother healthy; daughter, normal; three sons, all hæmophiliac, one of which died from the state. In our case it must be an intense form for all the boys are affected, while we know that under such circumstances, not all the sons are liable. Linser has been able to collect the genealogy of two of his patients, and he presents two very instructive tables of hereditary transmission in these families. He also refers to Stahel's statistics—*Inaugural Dissertation*, Zurich, 1880—where it was seen that many members of the afflicted families suffered from extravasations into their articulations. Lossen—*Zeitschrift Fuer Chirurgie*, XVII, p. 358—out of seventeen members hæmophiliac, of one family, besides nine which died from it, only five presented articular lesions. The mother of our patient excluded traumatism in her child's case, though this might have been unobserved or have been so slight that it was not remembered, for Stahel states that a sudden movement or even standing may give rise to an exudation of blood into the joints. Therefore he claims that it may nearly always be observed in children of hæmophiliac ancestry after the second year.

In our case the child was in the second stage of Koenig's division, but it had not entered the third, for all lesions of the cartilages which might cause atrophy, were absent, though the muscular contractures were present.

These contractures have an important influence upon the final result, for they are so difficult to overcome and tend to progress. Linser's first case had a very greatly flexed knee, the second's was at an angle of forty-five degrees. This ankylosis tends to decrease the inclination to further effusions into the same joint, though all the others may be affected and even the smaller ones, as of the thumb, in Lebert's case. The knee, however, seems to be most liable to suffer. Grandidier found this articulation ankylosed in five cases, with four times in the hip, as a complication; the hip-joint and the knee, in three patients and in one case the shoulder and the elbow joints.

—Professor E. Haeckel, of Jena, was awarded its prize of 10,000 lire for the most important scientific work of the last four years by the Academy of Sciences of Turin.

HOSPITAL REPORTS.

THE PRESENT TREATMENT OF SKIN DISEASES OCCURRING IN THE PRACTICE OF THE GENERAL PRACTITIONER.*

BY PROF. H. W. STELWAGON.

Eczema.—We have here a case that you often will see in private practice. The eruption here consists of very small lesions, elevated, some being discrete, while others are closely aggregated to form a solid patch. It is red, and of course inflammatory. We have one or two patches on the face which have lasted three or four weeks.

We are not always able to recognize the disease by its objective features. In young children, two or three years old, an inflammatory lesion about the face almost invariably means eczema. This is one of the mildest types of eczema you could see. It may last indefinitely and may get worse. The natural course of the disease is progressive, as a rule, and there is very little tendency to get well at that age. But as the child approaches the age of five or six, nature may assert itself and the disease get well, for it is uncommon after five or six or seven years. On this point is based the reputation of the many quack physicians who claim to cure eczema. When you get these cases in the beginning, always be cautious about your prognosis. Cases like this can often be cured in a time varying from one to six months. There may be a slight recurrence, but usually it is manageable.

The important point in the treatment is not to use too strong remedies. That is the secret of the failure of the general practitioner with this disease. In exceptional instances a strong treatment will answer the purpose, but you should always begin with the mild.

As to the cause, there is no doubt at all that some imperfect digestion is most frequently at the bottom of cases. Children that are artificially fed and those that are ill-fed are more liable to the disease. Most of these children have the run of the table—eat anything and everything. Care of the diet is therefore an important part of the treatment. Look after the condition of the bowels and the general nutrition. Sometimes merely a laxative is required, while in others it is an active nutrient, such as cod liver oil. Small doses sometimes accomplish wonders. Arsenic must be used cautiously in children, but it has some effect in obstinate cases. The local treatment in any case should be mild. A boric acid wash, ten to fifteen grains to the ounce, may be used, followed by a salve. Black wash may be used instead of boric acid. Carbolic acid is used to control the itching, five or ten grains to the ounce.

Ringworm.—Here is a case of loss of hair occurring in patches. It may occur in alopecia areata. In that disease the falling of the hair is the only symptom. If you look at this case you will find scaliness in a moderate degree and redness. If it is not alopecia areata, what is the next most common cause? Ringworm, where we have loss of hair in patches, and in addition textural changes in the skin, with scaliness and a little crustiness. There is one other cause for this symptom, and that is favus. In this, however, there is a straw-yellow crust, quite thick, and atrophic changes in the skin almost amounting to scarring. If in doubt between favus and ringworm, you can have the patient go without treatment for a time, and if it is favus, you will find the yel-

*In Dermatological Clinic, Woman's Hospital, Philadelphia.

lowish crust formation. The microscope may be used in diagnosis, but many physicians do not use the microscope, and it is not always necessary. Favus and ringworm are due to fungi. We now know the cases of ringworm are not all due to one fungus, but the three or four forms of fungi look alike to the naked eye. The disease is essentially the same and the treatment is the same.

The difficulty in treating ringworm of the scalp is in destroying the vegetable parasite. It gets down into the hair follicles, and while you may in the course of a few weeks apparently cure the disease, in a few weeks more it reappears. It is one of the most obstinate diseases of the scalp to treat. The form due to the large spored fungus gets well more quickly—in one or three months. This disease of the scalp is contagious and eminently so among children. It is rarely seen among adults.

The treatment is by preventing contagion by carbolic acid wash, by sulphur soaps, tar soaps and curative ointments applied to the spot itself. Pulling out the hairs on the affected area will materially aid in shortening the stage of the disease.

We may prescribe sulphur ointment, or with sulphur ointment as a basis, oil of cade 3 j to 5 j. We may add xx-xl gr. of naphthol. Citrene ointment, sulphur ointment, and tar is a common prescription. One of the best in private practice is chrysarobin. It can be used in liquid form with collodion, a dram to an ounce. Paint it on night and morning for three or four days, allow the patient to go without for three or four days, then it can be resumed.

Kerion is one form, producing boggy ringworm. It is usually acquired from the lower animals. In very severe cases of ringworm a method of treating with croton oil has been used. Weak croton oil is applied two or three times a day for several days, followed up, if the skin can stand it, with the pure oil. This treatment must be used with great care, and under your own eye, and you cannot use too minute a quantity. As a rule, it is only justifiable after other methods fail. I have never seen scarring from the treatment, but scarring has followed.

I will say a few words about another disease I mentioned in connection with ringworm; that is alopecia areata. Here there are one or more bald, smooth patches, glazy and glistening. It may come on suddenly or gradually. There may be not a solitary hair left on the general surface. I have had several such cases under my observation. As a rule, the large majority of cases under thirty years of age get well. Up to a few years ago the disease was considered purely neurotic. Now there is scarcely a dermatologist who does not consider that some are parasitic. I have seen instances where two cases were in the same family at the same time. And epidemics of the disease have been reported. So we must take into consideration the parasitic type. In France alopecia areata is not allowed in the public schools; it is tabooed as ringworm is. I recall one case that had the courage to adhere to me for ten years. There were three or four patches that would get well, then other patches would appear.

The treatment is based on the etiological factors. I have taken the ground that the external treatment for the neurotic and parasitic types is the same. The medicines used for stimulation are parasiticides as well. Strong applications are used. The treatment should always practically be the same. In addition to the external treatment are the internal remedies. Those who hold to the neurotic theory exclusively depend almost entirely on internal treatment, constitutional treatment. It does not do any harm to improve your general condition. Arsenic,

strychnia, sulphur, pilocarpine are the best remedies used in constitutional treatment.

Acne.—I. There is a case here of a colored boy, with eruptions about the face which have lasted for several months. There is a form of acne like this in which all the lesions partake of the nature of subcutaneous abscesses. As a rule, in acne most of the lesions are small papules and pustules, with blackheads; but you must bear in mind that we can get any degree up to the type where there are abscesses as big as my thumb. I have seen such abscesses which could contain as much as a dram or two of pus. Here the eruption is limited to the face and shoulders.

We will give strong applications here; their skin, as a rule, will stand it. The sulphate of zinc and sulphate of potash is good to begin with while you are getting your breath, gauging the strength of your applications by the strength of the individual skin. And calomine and zinc oxide is good. Then you can ordinarily give a saline, magnesium sulphate or Rochelle salt, in the morning every day or every other day, for most of the cases are constipated. Then base your further treatment on what you find to be the etiological factor in the case. Usually there is some disturbance in the digestion; in other cases there is the lack of something which cod liver oil seems to supply. Arsenic is good in the sluggish types. You should never say that the patient will outgrow this and nothing need be done. It may leave a scarring and produce an unhappy condition of mind. You can do a great deal of good, and can certainly remove the disfigurement in many cases.

When the patient has used the wash, you wish to get after it a slight branny condition of the skin. If this does not come, you can increase the strength of the solution. Washing the face at night with tincture of green soap before using the wash will increase the strength of the wash. Tell them to dilute it at the first couple of times then.

II. This woman has an eruption on the palms of her hands. It varies from better to worse, but has never been so bad as it is now. It is better in the morning than at night; water aggravates the condition. One point here is of some value; the fingers are not involved. Frequently in eczema the fingers are the first to be involved. Another point that would suggest that this may not be eczema is the sharply defined edges at the wrist, the marginal character of the eruption. It has a semicircular outline; it spreads peripherally. All these points, together with its chronicity, would suggest this is a form of syphilide, and that is what I should take the case to be. Eczema seborrhoica is occasionally marginal, but not so generally so, and it is not so persistent. Shutting out the margins, there is hardly any one who would not give a diagnosis of eczema. But when you analyse the case with the edges, it is probably syphilitic, and I have been told there is syphilitic history. In many of these cases there is a destruction of tissue, even if you don't get positive scarring. This is one of the cases in which there would probably be a question of diagnosis even among specialists. We are obliged to go to the history for aid.

As to the treatment, externally it is about the same as that for eczema. Add to the remedy or salve a mercurial. It should be thoroughly rubbed in twice daily, and the hands should be kept gloved. A mercurial plaster may sometimes be used. The hands should be kept out of water, and may be washed with some meal. The internal treatment is important. It would be the mixed, potassium iodide, with a mercurial, remembering as you

get farther away from the beginning of the disease to incline more to the iodide.

I want to refer briefly to erythema multiforma, a disease showing papules, erythematous areas and rings; occasionally there is a bleb. But usually the disease is just what its name signifies. According to the predominance of the lesions you get the varieties. Probably the most common is with the lesions, chiefly papular, of a bright red tinge, appearing on the back of the arms and forearms. In size they vary from a pin-head to a pea. The text books say it is also seen on the legs. My own experience is that it is more commonly on the face and neck.

The disease runs, as a rule, with no premonitory symptoms, sometimes rheumatic pains being present. It runs its course in four or five weeks, leaving a little staining, which later disappears. A peculiar fact is that it is more prevalent in the spring and autumn. The disease recurs in a large number of cases; a patient may have two or three or four recurrences.

In some cases there are erythematous areas on the face; in others the disease appears in ring-shaped areas, and in others still, especially in plaques. In extreme cases, in addition to the eruption on the backs of the hands, you get it on the palms. In recurrent cases I have seen it repeatedly on the palms. The lesions may appear on the mouth and lips. Sometimes we have the annular form, where one ring is inside of another, and this we call erythema iris, from its resemblance to a rainbow. Occasionally one of these rings will go on to vesiculation and we get herpes iris.

At the present day erythema nodosum is considered a variety of the same disease. Instead of papules, we have nodule. While they look serious, they are usually comparatively mild. You are apt to have eye symptoms and swelling about the joints.

As to the etiology of these manifestations, it is more or less obscure. We must accept the fact that season has an influence; it may be climatic, or due to certain articles of food taken at the certain time of year. Intestinal disorders are the most frequent cause, and there is often an underlying rheumatic or gouty diathesis. We must not forget the eruptions some drugs may produce.

As to the course: They all get well with the few exceptions of those which tend to recurrence, and these may be very obstinate. I have seen the disease in a young person persist for twenty years. As they approach the age of twenty-five or thirty, it will disappear.

The treatment is first with saline or laxatives, an antacid and laxative together. Nothing has proved so satisfactory in my experience as calcined magnesia. Intestinal antiseptics may be used, sodium salicylate, salol and remedies of that kind, in some cases quinia, in three or four grain doses. Ordinarily the patients are not in bed, but sometimes there is febrile action, and then they should be kept in bed. Locally there may sometimes be itching, although the absence of itching is a diagnostic point in its favor. Then use carbolic wash, thymol washes, or sponge with alcohol and water. In herpes, apply a salve.

In *urticaria* we have a disease similar to erythema multiforma. It is a common disease, resembling the lesion produced by the bite of a mosquito in some persons. It is more pronounced on covered surfaces in the large proportion of cases. You rarely find it in ring form, and another point of difference from erythema multiforma is the evanescence of its lesions. In some cases you can see a hive come out before your eyes, and it may disappear in a few minutes. We may have swelling, without the appearance of any eruption. In *urticaria* the itching

is, as a rule, intense. If present at all in erythema multiforma it is slight. Yet it may be almost impossible to tell whether we are dealing with one or the other; the pathological and etiological factors are probably the same. It is essentially an acute disease, but we do have chronic urticaria; the lesions do not persist, but the underlying condition persists and the lesions come and go indefinitely. Most of the causes are intestinal, the acute attacks coming after eating certain articles of food.

In acute cases the treatment is self-evident: a saline or a laxative and an antacid given along with intestinal antiseptics. Sometimes an active emetic is given, so as to get rid of the disturbing factor immediately. I have never known a case to have terminated fatally. For the chronic urticaria we give constitutional treatment. In women any irregularity must be considered as a factor, anything that disturbs the nervous system. It is usually intestinal disturbance. Belladonna and atropia, you find, in all your text-books, as used in chronic urticaria. Other drugs are pilocarpine, strychnine and arsenic. Chloride of calcium has been recommended in the last few years. Sodium salicylate and belladonna and pilocarpine are the most useful. Insulation treatment or general faradization or galvanism is of use in some cases. Many cases are persistent because the treatment is not continued long enough. It requires, as a rule, a year or two to get permanent results; but usually you can't get your patients to stay with you so long as that.

There may often be a rheumatic or gouty diathesis, which is the cause of the intestinal disturbance. Always try to ascertain whether there is any indiscretion in diet. It has happened that butter has been responsible for the eruption—or drugs in some cases, sometimes opiates. I know a patient in whom the smallest quantity of morphia will produce the disease.

Zoster or Shingles.—When you get a one-sided eruption showing in patches, you can call it shingles. It may involve any portion. It runs its course progressing for five to ten days, then begins to dry, crusts forming and falling off, lasting from three to six weeks. Exceptionally it leaves scars. Usually there are no general symptoms, but malaise, pain and burning accompanying the eruption throughout. In old patients a neuralgic pain may persist afterwards for years. The disease sometimes appears almost as an epidemic and is looked upon by some as a systemic infection.

As far as the external treatment of the disease is concerned it is protective. You will find that in most of the books collodion is given, and it was formerly in my book; but I have taken that out. Painting with collodion will bind up the secretions, will make the patient uncomfortable and will give you no result. In abortive cases it may be an advantage, but in the majority of cases the eruption may be covered over with a dusting powder, such as zinc oxide, over which patent lint is applied. In some cases cocaine and extract of opium may be used with ointment. Protection sums up the external treatment. The application of galvanism, if carried out every day, may be almost abortive in its results.

—Goodhue (*Med. Record*), treating of leprosy in Hawaii, suggests that we should look out for lepers in the United States, where they can go and mix with the people without suspicion, and quotes an authority on diseases of the skin, who says that one of the most distinguished clergymen in the United States has been a leper for years, as an illustration of its occurrence,

RETROSPECTIVE THERAPEUTICS.

BY ALFRED K. HILLS, M. D., FELLOW OF THE ACADEMY OF MEDICINE OF NEW YORK, ETC.

Diabetes Mellitus.—Dr. Geo. D. Barney (*N. Y. Med. Jour.*, March 31, 1900) says: Careful study of diabetes renders it more than probable that the disease is but the evidence of the existence of a grave malnutrition, due primarily to the effect of perverted nervous function. While the liver still continues to perform much of its normal work, it nevertheless acts not unlike an engine deprived of the regulating and restrictive influence of its governor and balance wheel. The glycogenic center has lost much of its power to control that portion of the hepatic function over which it presides and the whole machinery is put out of gear. Glucose is formed more rapidly, and the destruction of the red blood-corpuscles goes on with unwonted freedom. The relaxed and overtaxed organ fails to prevent access to the circulation, not only of intestinal bacteria, but also of unchanged peptones elaborated in the stomach. The crisis of the blood becomes profoundly impaired, and every cell in the whole body suffers from the lack of sufficient food and is devitalized by circulating poisons as well. Hence the great physical prostration, the tendency to skin affections, the mental depression, and the inability to resist hostile attacks from without. The indications for treatment then are to curb and regulate the nervous influence at the root of the trouble, improve the blood and the circulatory system, and prevent as far as possible the invasion of the micro-organisms and inhibitory products of incomplete and imperfect digestion from the alimentary canal. The remedy which best fulfills these indications is found in the double bromide of gold and arsenic, introduced to the profession under the name of "arsenauro." It combines in one the tonic alterative elements of the two metals and the sedation of bromine. First of all, it affects the nervous system, restoring the integrity of the glycogenic center. Secondly, it acts as a powerful vasomotor regulator, increasing the vascular tone and diminishing the amount of blood supplied to the liver. It improves the digestion and, secondarily, the condition of the blood itself. It brings about a decided change in the general nutrition through the alterative influence it exerts upon the ultimate cells.

In the majority of cases I have seen rapid and marked benefit follow the use of the preparation. The quantity of sugar is notably diminished, the thirst grows less imperative, mental depression disappears, and the body nutrition improves progressively.

"Arsenauro" should be administered after meals, beginning with five drops, and increasing the dose one drop each day thereafter until the limit of physiological tolerance is evident—i. e., puffiness about the eyes, a tendency to diarrhoea, and colicky pains about the abdomen. This limit, however, differs; in some patients it will be reached at a ten-drop dose, and in others it will require thirty or forty drops.

The Hot-Air Treatment of Disease.—According to F. G. Douglas Kerr (*Practitioner*), the principle underlying this form of treatment may be expressed in the fact that cold applied to the body-surface stimulates, while heat facilitates function; cold temporarily lowers the body temperature, while heat raises it, and both are followed by reaction.

Moist heat becomes painful at about 115° F., and intolerable at about 120° F. Baths at 105° and vapor at 115° F. so rapidly induce exhaustion that they cannot

be borne for any length of time. On the other hand, by means of hot air, provided that it is kept thoroughly dry, the body may be subjected to a temperature ranging from 250° to 350°, or even up to 400°, for lengthened periods without inconvenience.

Hot baths, especially hot-air baths at high temperatures, increase the combustion in the body, as is evidenced by the increased elimination of carbonic acid from the lungs. The raising of the body temperature depends less upon the amount of heat applied locally to a small surface than upon the degree to which radiation is counteracted or prevented from the rest of the body. Hence, in practice, where constitutional results are aimed at, it is best to give a whole body bath; and so it follows that that form of hot-air apparatus which best meets the requirements for whole body treatment is the one best suited to medical purposes. The effects resulting from such high temperatures, as might be expected, are very striking and wonderfully uniform in their manifestations. Dr. Sibley, of London, and Dr. Chrétien, of the Salpêtrière Hospital in Paris, who have both had extensive experience, give the following results:

(1) More or less profuse perspiration, not only of the part treated, but over the whole surface of the body; (2) marked reddening of the skin on the part treated, indicating a dilatation of the blood-vessels; (3) diminution and rapid disappearance (sometimes almost immediate) of pain; (4) restoration of movement where the functional impotence was due only to pain; (5) more or less marked acceleration of the pulse, caused evidently by the peripheral dilatation of the blood-vessels, which facilitates the action of the heart and makes it contract more vigorously; (6) temporary elevation of the body temperature.

The rise of body temperature is a very striking feature. It varies from 1° to 3° F. when the registration is taken in the mouth. The rise of temperature, which is gradual throughout the bath, subsides slowly when the heat is discontinued, and falls again to normal in from three to five hours. It is not followed by a fall below the normal.

Except in surgical affections of joints the writer finds that about fifteen out of every twenty patients take the whole body bath, and that better results are obtained from its use, even when the disease to be treated manifests itself locally in one limb or one joint. In this respect the hot-air treatment corresponds to general balneological practice.

The diseases he has thus treated have included gout, rheumatism, rheumatoid arthritis, sciatica, and other forms of neuritis; certain joint affections characterized by stiffening, and a few cases of functional heart trouble, in conjunction with the Nauheim treatment. Results obtained are summarized as follows:

(1) Gout.—Here it is a most valuable aid in the acute stage. Even one bath affords considerable relief of pain, which is appreciated as soon as the temperature rises above 300°, lasts during the bath, and continues for hours afterwards; in fact, the pain is seldom so severe again. In several cases of acute articular gout two baths were given daily, one to the whole body in the morning and a local one in the evening to the part affected, with the result that the attack was reduced to a matter of days instead of weeks as on former occasions. In gout, as in other ailments where there is a marked inactivity of the skin, a few hot-air baths quickly restore the function.

(2) In Rheumatism Kerr has had no chance of trying the effect of this bath in an acute attack, but would

have no hesitation in doing so, and would expect good results. In chronic rheumatism undoubtedly good results after a time have followed its employment, both in the articular and muscular forms.

(3) In Chronic Phlebitis some of the most satisfactory results have been obtained even in old-standing cases, where swelling was a source of great inconvenience. A marked diminution in the size of the limb resulted from one bath, and, after a further course, the swelling became permanently less, or entirely subsided.

(4) In Sciatica and other nerve pains the results have been conflicting. All patients experience relief while in the hot air, some cases have rapidly improved, while others, starting in a chronic stage, seem to have taken on more acute symptoms.

(5) Rheumatoid Arthritis.—In this painful ailment the hot-air baths have proved more markedly beneficial than any other treatment. In the early and more acute stages the tender and enlarged joints have rapidly improved and the general condition has decidedly benefited, most patients gaining weight during the course. In the later chronic stage, where all inflammation has left the joints, but deformity and fixation remain, little or no benefit has resulted from the hot-air treatment alone. In those cases, however, where the joint condition has warranted forcible movement under an anesthetic, it has become the practice to give a hot-air bath as soon as the effects of the anesthetic have passed off, with the result that after swelling and pain are greatly reduced, and subsequent baths greatly hasten recovery of function.

(6) Heart Disease.—In most organic heart cases one would naturally hesitate to use so powerful a form of treatment. In several patients undergoing a Nauheim course, where cold feet and hands were a marked distress, there were excellent results from a few hot-air baths given during the treatment.

(7) In General Debility and Anemia, where there is no counter-indication to their employment, good results have also been got from whole body baths. Even delicate patients, once they have got over their first nervousness, bear the baths well; in no single instance were bad results known to follow their use.

(8) In surgical affections of joints, especially those of stiffening, following the application of splints, the local baths are most valuable and greatly hasten recovery. The increased circulation also promotes the redevelopment of muscular tissues.

In conclusion: The hot-air treatment will, no doubt, prove a useful addition to our power of treating certain selected cases. We cannot expect impossibilities from it, and should be careful not to be misled by exaggerated trade advertisements; nothing but discredit can result from its too promiscuous use in unsuitable cases.

Sulphur and Potassium Permanganate for Diphtheria.

—This treatment is advised by Annie K. Bailey, M.D. The permanganate rapidly oxidizes or consumes the organic offender, and the sulphur is a powerful germicide. Together, they form a safe and invincible pair, and will remove both cause and manifestation in an incredibly short time. She has obtained astonishing results from them in twenty-four hours, and with these agents knows no fear of diphtheria. The doctor has never found it necessary to give more than two and one-half grains of sulphur and one-fourth grain of permanganate of potassium, in capsules, alternating every hour and allowing water freely until the membrane entirely disappears; then continuing the same at longer intervals for two or three days after.

RETROSPECTIVE DIETETICS.

On Vegetarianism.—Hector Waylen gives an account in a recent number of *Food and Cookery (Diet. and Hyg. Gazette)* of his experiences and observations on vegetarianism. "For about eight years altogether," he writes, "I was a vegetarian, at one time living almost exclusively upon raw fruits and nuts. I believed then, as indeed I still do, in reducing the mechanical botherations of life to a minimum, so I troubled no one to cook me a dinner, nor could I then have proved a very profitable customer to tailors and shoemakers, for my clothes—in summer at least—weighed but three pounds eight ounces, including sandals, which I manufactured myself. I owned no hat, enjoyed few things more than a thorough soaking in thunder storms upon the moors, tried hard to nibble beechnuts; in brief, went in for the 'return to nature' school as consistently as anyone I have met. But in process of time I came to see that the word 'natural' must be given a wider signification than I had hitherto attributed to it. Man, and all that he has done, had to be taken into account, and later on I found that, upon closer inspection, the vegetarian position was by no means impregnable.

"Physiologically man would appear to be a semi-carnivorous animal. * * * Wherever man goes he can to a great extent make his own environment, and with the progress of science will do this more and more. So many factors, too, enter into human life which do not obtain in that of the lower animals. Because a monkey can do this or that it does not follow that it would be well for man to do the same. An ape can dispose of a quantity of nux vomica that would speedily be fatal to many human beings.

"Vegetarians, as a rule, are not a healthy folk. Either they present a wizened and emaciated appearance, or there is a tendency to flabbiness. They have poor circulation and are liable to chills. They suffer from dyspepsia and anemia. Bad breath and flatulence, proceeding from a foul stomach, are noticeable among them. The liver and kidneys are commonly affected, and altogether there is a marked want of vitality. * * *

"The Anglo-Saxon of to-day flourishes best, I believe, upon a diet of flesh foods, starch foods, dairy products, fresh fruits, and green vegetables. Our four-footed friends may be regarded as the workers-up of raw material. Vegetarians burden their digestive organs with masses of crude stuff, practically deprive themselves of fats and oils, and then think—while they daily grow thin and nervous—that they are improving in health. * * * When the human body is starved it begins to feed upon itself, as a camel does upon its hump, and vegetarians are thus themselves guilty of a species of cannibalism. First, the fat in the eye-sockets is consumed, and then that which protects the kidneys and the related nerve centers will waste away, with resulting neurasthenia and kidney disease.

"For nearly a year after my breakdown I used to lie awake for days together from sheer inability to sleep. * * * I am certain that at one period I got no sleep for seventeen consecutive days and nights. Even then I was still trying to get well on the ordinary vegetarian diet. * * * And it was not until my doctor insisted on meat three times a day, with beef tea in addition, that I took a turn for the better. * * * Life had become a dreary, crawling dream. To think or speak was a pain. Vegetarian advisers had failed to diagnose my condition, and feeling this to be the case I suddenly determined one morning to give up the whole thing. * * * Lastly, there is the esthetic and

quasi-religious aspect, and this has led me as much as any side of the question. But if the whole subject be put on a new basis these are side issues not essential to the present theme, and I will only remark that without health neither esthetics nor any other of the finer developments can exist at all. * * * The practical point is that we have work to do in this world, and cannot do it without health, and if we find that animal food is essential to health we must kill and eat. * * * In what I have said I do not wish to imply that vegetarianism is always and necessarily a mistake. Though unsuited to a normal diet it may be useful as a course of medical treatment, and this may account for many cases in which it appears to have been beneficial."

Diet as a Method of Diagnosis.—Spivak (*Phila. Med. Jour.; Jnrl. A. M. A.*) speaks of the necessity for detective ability *a la* Sherlock Holmes in the physician, especially as regards the diet. He concludes as follows: 1. Every patient suffering from gastro-intestinal troubles should be interrogated in the minutiae of his diet and its probable relation to the disease. 2. Since, as a rule, the answers are not satisfactory, therefore diet tests should be instituted for as long a period as may be necessary to elicit all the required data. 3. Impress on your patient the fact that it is impossible to make a snap diagnosis. You may at the first visit suppose, guess, surmise, suspect and presume as to the nature of the malady, but it will be for his benefit to wait patiently until you have ascertained the cause of his trouble.

Cheap Milk is Poor Milk.—At a meeting of the New York County Medical Society (*Med. News*) Prof. H. W. Conn spoke of "the central principle that must be remembered when buying milk for family use. If a proper price is not paid for milk the purchaser cannot expect to get a good product. Milk constitutes one of the most valuable food products that we have. It should be used much more than it is, but if it is to be used with benefit and without danger the consumer must be satisfied to pay a fair price for it."

Diuretic Effect of Grapes.—Dr. Pecholier, of Montpellier (*Diet. and Hyg. Gazette*), has published a note on the diuretic effect of grapes, which would appear to confirm the diuretic action of glucose recently brought to notice. In two cases—one a patient with cardiac disease and the other the subject of hepatic cirrhosis with ascites—a "grape cure" was undertaken with the best results. In the former patient, notably, five pounds of grapes were daily ingested in three parts, and the diuresis produced was much more considerable than with milk, digitalis, or iodide potassium. This effect can only be attributed to the sugar of the juice of the grape, the other parts of the fruit having been rejected.

Milk for Diabetics.—Dr. R. T. Williamson (*Med. Chronicle*) suggested the following method of preparing for diabetic patients an artificial milk practically free from milk sugar: To about a pint of water placed in a large drinking pot or tall vessel about two or three tablespoonfuls of fresh cream are added and well mixed. The mixture is allowed to stand for twelve or twenty-four hours, when most of the fatty matter of the cream floats to the top; it can be skimmed off with a teaspoon easily, and on examination it will be found practically free from sugar. The milk remains dissolved in the water. This fatty matter thus separated is placed in a glass and mixed with water. Then the white of an egg is added and the mixture well stirred. The water and

white of the egg are added in sufficient quantities to make a mixture which has the exact color and consistence of ordinary milk. If a little salt and a trace of saccharin be added a palatable drink is obtained, which has almost the same taste as milk and which contains a large amount of fatty material and is practically free from milk sugar. With very little practice the right proportions can be easily guessed, and, of course, much larger quantities than those mentioned can be prepared.

Mr. Teale Prefers Ether.—The *British Medical Journal* of October 21, 1899 (*Phila. Med. Jour.*), quotes from Teale's article on ether in the *Encyclopedia Medica*, presenting the writer's views of the subject as an operating surgeon. Mr. Teale, after twenty years' experience with chloroform, adopted ether, and now after two more decades in which he has used that anesthetic affirms unhesitatingly that ether is safer, and, if properly given, quite as serviceable as chloroform. He has found ether wholly satisfactory in abdominal surgery, in throat work, and for young children and aged persons. The two stock objections urged by those who use chloroform in preference to ether have recently been its after-perils—that is, bronchitis, pneumonia, etc., and the less profound narcosis, which causes rigidity, hurried breathing, and so on. These, Mr. Teale's experience goes to show, are more theoretic than real. He has never seen ether-bronchitis and agrees with those anesthetists who regard it as being most rare, and, when present, commonly due to exposure of the patient to cold before, during, or after the operation. That surgeons like a patient to be profoundly anesthetic is natural, but whether the condition, always one of extreme risk, is often desirable from the patient's point of view seems fair matter for argument.

Massage in the Treatment of Fractures.—Lucas-Championnière advocates massage and the doing away with immobilizing apparatus in the treatment of fractures (*Med. News; Phil. Med. Jour.*). He says that moderate movement favors the repair of fragments of bone, the callus being larger, firmer, and more quickly thrown out. A large amount of movement, however, does inhibit the process of repair. The majority of cases of fractures of the wrist, of the radius, and of the clavicle and all fractures of the humerus above the insertion of the deltoid, of the elbow, and other such may be treated without any immobilizing apparatus whatever. The massage should never give pain, and, indeed, should have for its primary object the relief of all pain, thus tending to reduce muscular spasm, which is so great a factor in the dislocation of the fragments.

Significance of a Small Induration in the Breast of a Woman Over 30.—A. Marmaduke Shield, M.B., F.R.C.S. (*Clinical Jour.*, October 4, p. 380; *Med. Rev.*)—The importance of the early recognition of cancer of the breast is not always appreciated. It should be known that the beginning of cancer of the breast is very insidious and not attended by any great pain or discomfort. If a woman of the cancerous age gets an abiding patch of induration in the breast, however small or apparently insignificant, it is serious. In nine cases out of ten it will prove cancerous. If not cancerous it will be inflammatory, or a small deeply seated cyst with thick walls. Exploratory incision, to be followed if necessary by removal of the breast, is the right course. If all cancers and the neighboring lymphatic area were removed in the early stage the results would be far better than they are.

MISCELLANY.

—A legacy of Jenny Lind Goldschmidt gives the Samaritan Hospital, Stockholm, Sweden, \$30,000.

—A chair of inter-tropical pathology has been created at Havana, and Dr. J. Guiteras appointed to it.

—The Heidelberg medical faculty, induced by Government influence, has voted to admit women students.

—The estate left by Sir James Paget amounted to \$370,000, which is divided almost equally among his six children.

—In the Berlin Medical Society the proposal to admit women as members has again been defeated by an overwhelming majority.

—As the direct result of picking an acne point on his face, a young man in Toronto recently lost his life through the resulting septicemia.

—A correspondent of the *Medical World* claims that half-an-ounce of bi-sulphide of carbon well rubbed in over the painful parts will cure sciatica or lumbago in just two minutes.

—A successful case of artificial impregnation is reported in the *Medical World* for April, by Dr. Elliott Gardiner, of Philadelphia. Only four other similar cases are on record in this country.

—A sewing-needle, two and one-half inches long, was recently found in the vermiform appendix of a patient operated upon at Hartford, Conn., for appendicitis. The young woman remembers having swallowed a needle several years ago.

—A substance has recently been placed on the English market which is called lactohorn. It is made from the caseine of cows' milk hardened by means of formaldehyde, and is meant to replace horn, gutta percha, ivory and celluloid for knife-handles, and the like.

—According to the daily papers, Dr. Charles K. Barlow, of Poughkeepsie, is endeavoring to reduce his weight from 265 to 200 pounds by living on only two oranges a day. He began on March 1, and at the end of the first week declared that he was feeling well and not a bit hungry.

—Lawrence Akins, aged 38, of New Rochelle, was well until March 1, when he scratched his left thumb on a rusty nail. Soon afterward his arm began to swell, and his physician wished to amputate. He refused to have this done, and died within three days from the time he received the scratch.

—A philanthropist of Palermo, Signor Ignazio Florio, recently founded a dispensary for diseases of the eye, in which all the poor are treated without cost. But this is done at the expense of the institution and not of the attending ophthalmologists, each of whom receives regular fees for the cases treated at the same rate as if they were cases in private practice.

—A French physician who has a very extensive country practice carries with him, the *Lyon Medical* says, several carrier pigeons. When he finds a patient in urgent need of medicine he attaches the prescription under the wing and releases the bird. On the appearance of the latter, the apothecary catches it, and despatches the remedy, thus frequently saving many hours' delay. The idea is an excellent one, which it might pay some other druggists and physicians who have long routes to adopt.

—The lower House of the Ohio Legislature has passed an act prohibiting the cutting of ice within the limits of any municipality without the consent of the local Board of Health. The Board is also given authority to forbid the sale of any ice it may judge unfit for use.

—Where ice cannot be procured water may be cooled by wrapping the pitcher containing it in a towel of loose texture which has been previously impregnated with ammonium nitrate (and dried), and moistening this with water. The same towel may be used repeatedly, after being dried each time.

—G. Sims Woodhead, M.D., professor of pathology, Cambridge University, England, recently wrote for *Akbari*, edited by W. S. Caine, of London, as follows: "For the last year or two I have been keeping note of the various observations that have been made in regard to the use of alcohol in disease, and I am coming to believe more and more firmly that the patient who takes, or has taken, alcohol, has a less chance of recovery than the patient who abstains."

—The French Government has created a new title, viz., "Doctor of Pharmacy," to be conferred on druggists who have passed a certain examination. The *Jour. de Méd. de Paris* (Jrnl. A.M.A.) deplores the confusion that will necessarily result: "The public is always ready to believe that druggists are more than half physicians, and will be still more inclined to apply to them for prescriptions when the sign bears the title of Dr.—much to the detriment of the medical profession."

—Gilles de la Tourette has been placed in charge of the emergency medical service at the forthcoming Paris Exposition, for which he is peculiarly fitted by his familiarity with six of the leading modern languages, in which he gives consultations almost daily without discrimination. The *Figaro* states further that there are to be four or five stations, with eight physicians, two or three internes and as many nurses, and an ambulance at each post. Two physicians are to superintend the removal of the patient to hospital or residence and continue their medical care as long as it may be necessary.

—Bird (*Laryngoscope, Med. Standard*) reports an unusual accident which befell a patient of his. While running across the yard in the dark he was struck in the mouth by a wire clothesline, which caught in his teeth, throwing him to the ground, and tore out nearly all of the left superior maxillary bone with eight teeth on it. The dimensions of the bone are as follows: External surface, two and one-half inches; height, one and five-eighths inches; depth, one inch. The left half of the roof of the mouth, the floor and outer wall of the nasal fossa, were removed with the bone. There was no perceptible scar or deformity of the face.

—According to a story now going the rounds in London (*Med. News*), the founder of one of the great courses of lectures in medicine at the Royal College of Physicians was a wealthy merchant-grocer, who for years had suffered terribly from insomnia. Upon one occasion he had had no sleep for five days and was restlessly pacing the streets in a half-demented condition, when he happened to pass the door of the College and saw the announcement of an endowed lecture which was then being given. He wandered into the room, took his seat, and in fifteen minutes was sound asleep. So grateful was he that when he awoke he at once proceeded to establish and endow a similar course for the benefit of future sufferers.

ORIGINAL ARTICLES.

HEMORRHOIDS; HORSESHOE FISTULA.*

BY JOSEPH M. MATHEWS, M.D.,

Formerly Professor of Surgery and Diseases of the Rectum in the Kentucky School of Medicine, etc.,
Louisville, Ky.

GENTLEMEN—This young man comes to us with the history of hemorrhoids; whether there is any complication or not we do not know until we examine.

The patient, S. B. S., is a man aged twenty-two years, clerk in a general store in a small town. Family and personal history good. The trouble from which he seeks relief came on seven years ago. He had an attack of constipation lasting two or three days, and when the bowels moved he passed a small quantity of blood. Blood continued to be discharged with the evacuations, and two years later he noticed a protrusion coming outside of the bowel during defecation. From that time on there has been a continuance of the bleeding and protrusion, which have both become steadily worse.

Occasionally he has a pain at the anal orifice just after defecation. This is of a burning nature, and disappears generally in the course of an hour. He has a protrusion from the anus every time the bowels act, but not at any other time. This protrusion is about the size of an almond, is harder to the feel, and seems to involve the whole circumference of the bowel. He always finds it necessary to replace the protrusion after an evacuation. Coincident with the protrusion he notices bleeding. The blood is dark in color, and amounts to as much as an ounce with each evacuation. His bowels generally move twice a day. There is no straining and the actions are well formed.

The genito-urinary organs are in good condition.

I have so often talked about operating for internal hemorrhoids that I shall not attempt to lecture upon that subject this morning, but simply proceed to do the operation. This will be a very common operation in your private practice, and it is, therefore, important that you properly and thoroughly understand it. There are a great many arguments, that differ materially, as regards how this operation should be done, even with the ligature. The method that will be followed this morning I have practised for the last seventeen years; formerly I did Allingham's operation.

The first step in doing an operation for internal hemorrhoids is to divulse the sphincter muscle thoroughly, for several reasons; first, by this method you get the piles to protrude and bring them in sight; it is not necessary to have the patient go to stool, strain, etc., before putting him on the operating-table. He will often say to you, "Doctor, how are you going to get the piles out?" Divulse the sphincter muscle freely and you can get the piles to protrude; but the main reason is to prevent a great amount of pain following the operation. We will insert our finger, then a dilator. By this process we distend the sphincter muscle thoroughly, and we will irrigate the rectum freely. We get the bowel in as perfectly aseptic condition as possible by using bichloride of mercury solution. You will notice that the patient flinches a little, the anesthesia not being sufficiently profound for an operation upon

the rectum. The dilatation is not sufficient; therefore, I will dilate it more with my fingers. It is best always to have your patient deeply under the influence of the anæsthetic before doing any surgical operation, and especially does this apply to operations around the anus.

He has bleeding hemorrhoids. As I have told you, this is the dangerous symptom about hemorrhoids; patients frequently lose an enormous amount of blood, enough to deprive the general system of its nutrition. For that reason alone you should operate upon the hemorrhoids, although the protrusion may not amount to a great deal. He still resists under manipulation, though, of course, he cannot feel the operation at all. I judge that we will not see any large hemorrhoids here, but we shall see small bleeding ones. Sometimes after introducing our instrument, if the hemorrhoids are small, we catch them and then pull them out. It is remarkable how rigid some persons become under chloroform. You see here the bleeding surface; we are having considerable hemorrhage. He is so rigid that I cannot get the pile out to the verge of the anus; consequently we are operating under difficulties. We transfix each hemorrhoid and tie the ligature on either side, then clip them off. As I have now removed the first and largest one, you can plainly see additional hemorrhoids as they are pulled down; they are characteristic bleeding piles. You see there is a bunch of hemorrhoids so small that I can include two or three of them in one ligature. If not removed, of course, after a time they would become larger. I take this entire bunch in one ligature. The patient takes chloroform very badly, and it is almost impossible for us to work around the rectum where the tissues are so sensitive. In doing this operation be sure to cut off all tags around the anus, otherwise they will become swollen and give a great deal of trouble.

The operation having been completed, the usual dressing will be applied, the patient will be kept in bed for a few days, his bowels will be allowed to act on the third day, and we anticipate no complication during convalescence.

CASE II.—The next case will be more interesting, from the fact that it is a case of hemorrhoids of longer standing and much larger size. It will take but a few minutes to perform the operation. Ligation is much more rapid than any of the other methods; with the patient thoroughly under the influence of the anæsthetic, you can do an operation in ten minutes for the largest hemorrhoids.

The case upon which we have just operated demonstrates to you that you should never attempt to operate upon hemorrhoids with only one assistant; we could not have managed this man with one assistant. The anæsthetist should pay no attention to anything but his part of the work, and you should have at least two other assistants besides the nurses. All people are not alike as regards taking an anæsthetic; the patient just operated upon, as you observed, became very rigid under the anæsthetic and did not relax, which is unusual, and made the operation upon the rectum extremely difficult. He had three good-sized hemorrhoids and numerous smaller ones, with the history of protrusion, and he had lost a great deal of blood. He is comparatively a young man, and there was some danger from the bleeding piles and certainly great inconvenience; he was incapacitated for his daily labors, and came here from the country to be operated upon. When patients come to you from a distance to be operated upon, you should explain to them the nature of

*Clinical lecture delivered at the Kentucky School of Medicine Hospital and reported for this journal by C. C. Mapes.

the operation which you expect to do, advise them of its dangers, etc.; they will then have more confidence in you as surgeons and will more willingly take chloroform. Again, you should always be very guarded in making your diagnoses and prognoses prior to the operation, otherwise you may have many statements to retract.

Allingham recommends that in the vast majority of cases affected with serious rectal trouble you should make your examination under chloroform, not looking to an operation at the time, but simply for examination. My objection to that plan is that if it is a case for operation you can determine this fact upon general principles without giving chloroform, and you can make a thorough examination at the time you administer chloroform for the purpose of operation. I see no necessity of subjecting the patient to chloroform twice. If it is an obscure case and you are unable to determine exactly the nature of the trouble, then use an anæsthetic for examination as may seem advisable. I never use an anæsthetic except when it is necessary, because there is danger in it. Do not go out into the practice of medicine with the idea that there is no danger in giving chloroform; the most important patient in your practice might die under its effects, and I fancy that you will a hundred times wish that you could secure a person who has had some experience in giving an anæsthetic. Try upon all occasions to get some man who has had experience in giving anæsthetics, because their indiscriminate use by physicians and others who do not understand the dangers incident thereto—those who cannot detect pathological changes, for instance, heart complications, etc.—might be productive of disastrous results. Some people have the idea that chloroform should be pushed very vigorously; a patient may be gotten under its influence in a moment or two, it is true, but at the risk of great danger. I would have you study the subject outside of lectures that may be given you, as to the comparative merits of chloroform and ether, which is the safer of the two, and especially how to administer chloroform and ether. Death sometimes results from the anæsthetic, and we do not know but it may have been given in a way that it should not; therefore, do not rush into this matter blindly, but prepare yourselves carefully if you expect to practise surgery.

There is no class of diseases that calls for your consideration more than this, and patients will often come to you who have passed through the hands of other doctors and have not been relieved; consequently I would have you thoroughly understand such cases. I am sure that during the session almost all diseases that affect the rectum will be witnessed here, and by a thorough study of the subject you can become proficient. Some men in the profession bloom out as specialists, practising medicine, it may be, for five or six years, then all at once announce themselves as surgeons or specialists. Where did they get their knowledge? You have not heard of their having studied special surgery or surgery at all, yet they are asserting the fact that they have gone into the practice of some specialty in surgery. I would dislike to put myself in such an attitude, as I should be satisfied that I could not practise surgery under such circumstances. When you consider that in using the knife you are risking the life of your patient, a man must have a very hard conscience, or perhaps an elastic one, to operate upon a case when he is satisfied that he cannot effect a cure thereby, or that perhaps the patient will die as a result of his surgery (?). Therefore, if you contemplate special

surgery, pay especial attention to this branch of medicine while you are here, and after you leave here see as much of it as you can before practising it yourself. It may look like a simple thing to remove a cystic tumor of the ovary, as you have witnessed time and again; but when your own patient is chloroformed and you put your fingers down into the abdominal cavity, you will be surprised, I think, some of you, that you cannot tell exactly what you are feeling. It is experience that teaches us, we must have it, and this will occur to you frequently, especially in the practice of obstetrics, because you will probably not have over three hundred cases in obstetrics the first year, and if you have a chance to examine such cases here you should do it. It is the same with surgery; you may be told time and again how the contents of the abdomen feel, but get a chance, if you can, to feel for yourselves. You may be told how to make out diagnoses, but you should be able to make them yourselves and see whether they are correct. Therefore, I think it is a most excellent plan for any doctor, before going into the practice of medicine, to be very careful in making a diagnosis and prognosis, otherwise when consultation is called your diagnosis may be shown to have been wrong. Patients have been brought here by family physicians, who had made examinations and had detected the trouble without difficulty, where they had told the family of the condition present, and had brought the patient here to be operated upon; but as soon as the experienced surgeon examined the patient the diagnosis was dissipated. Look at the effect it will have upon you as practitioners of medicine. The most learned doctors and surgeons in the world have made the gravest mistakes. I knew an illustrious doctor living in this city who many years ago sent to the far East for a surgeon to come here and operate; he came, and there was a great stir here, from the fact that this eminent Eastern surgeon had been called to operate upon one of our most fashionable ladies. He found, instead of tubal or ovarian trouble, that the lady was simply pregnant, as she naturally should have been. The physician simply wrote up the case against himself, admitting that he did not make a correct diagnosis. It never hurt him. Sometimes, if a fellow gets into a scrape it may be the best policy to confess it, but, of course, this would depend upon circumstances. It is best to be honest, especially in dealing with women under conditions like those cited.

As regards diseases of the rectum, they are so palpably plain that I do not believe, with a careful examination, which should be made in all cases, you will often fail in your diagnosis; you might possibly make a mistake as to the etiology of the disease, but whether it is advisable to operate or not can usually be easily decided. You can look into the rectum; consequently you can make a correct diagnosis from sight and determine whether operation is indicated or not.

CASE III.—The next case is one of fistula in ano, and we will see how it compares with the other cases of fistula we have had. Each one is an individual case, having its own complications, etc. This young man is a druggist living in Indiana, and has had this trouble for some time, which he says causes him great annoyance. Dr. Green says he has one of the most nervous temperaments he has ever seen; he is afraid of chloroform, and afraid of everything that looks towards a surgical operation. You will find under such circumstances that the pulse will be very rapid, and under chloroform it will often become normal. First of all, gentlemen, in every case that presents to you with

rectal trouble of any character or description, introduce your finger into the rectum, because you want to discover what the complications are, if any. We find in the case before us that there is a large indurated mass at the verge of the anus on one side and that the external opening of the fistula is upon the other side. So we must conclude that if they are related to each other it must be a horseshoe fistula. The induration as evidenced to the finger signifies a little more to us. It may be a malignant deposit. We must remove this indurated mass, whatever it may be. I shall not divulse the sphincter; I will use a dilator which is not intended for dilatation but simply for washing out the rectum. The man already has a collapsed sphincter muscle, therefore we do not want to increase it by divulsion. It is a horseshoe fistula running from the left side around the perineum, and this mass is on the other (right) side of the gut proper. I will first introduce a grooved director, assuming that the main channel runs into the rectum on the left side; I shall then divide it, turn the grooved director around in the perineum, divide that portion carefully until I get to this mass, and shall then be able to decide whether or not it is connected with the fistulous condition, or whether the fistula is simply a complication of the indurated condition we find here. We may be able to decide whether the man has a cancer of the rectum. We encounter a pus cavity running in an upward direction towards the gut; the instrument also goes towards the anus as well as towards the perineum; we have entered the main sinus and will divide that first. Now we shall search in different directions for other sinuses; we find one which dips into the perineum and goes towards the other side. We find a sinus in the perineum dipping rather deeply; we come to the mass into which the sinus runs; it looks like cartilage. I shall dissect out the mass, whatever it is. You will now observe the horseshoe condition; it goes completely around, dipping down, and here is the infiltrated mass, which we shall simply take out. You can see how extensive this fistulous condition is; it goes up on one side one and a half inches deep, extending to the coccyx. Sometimes when we begin to do a simple operation we find, before it is completed, that we have to do a very bold one. This fistula involves the coccyx and all the tissues from the anus to the sphincter muscle. We have gone pretty extensively into the perineum, and in this situation we have to be rather careful, as we are in close proximity to some important blood-vessels as well as the urethra. At first it looked like a very simple affair, but it has proved to be a complicated one, and you will often find this to be the case. We will trim both sides, in order to make a smooth wound and not leave any overlapping edges. It looks like a considerable destruction of tissue, but unless we follow this plan we never get a good result. I have been careful to go to the bottom of the sinus, because if we were to leave a sac of pus underneath we should never cure the patient. Always aim to make your operation complete, otherwise a good result cannot be obtained; at the same time, make as simple a wound as you can.

I will now have the table so turned as to show you the extent of the wound that we have made in this case; you will see that it extends far out into the perineum, and back as far as the tip of the coccyx; we have made a clear open wound as far as we were able to do so. The edges have been carefully trimmed, and we expect to get union by granulation. Granulation tissue cannot start up if you leave behind an indurated condition.

SOME OBSERVATIONS ON THE PROGNOSIS AND TREATMENT IN THE SO-CALLED CATARRHAL DEAFNESS.*

BY DUNBAR ROY, A.B., M.D.

Clinical Professor of Eye, Ear, Nose and Throat in the Atlanta College of Physicians and Surgeons;
Oculist and Aurist to Grady Hospital;
Fellow of the American Laryngological, Rhinological and Otological Society, etc.

IT seems superfluous in me to try and discuss the subject of deafness when our medical journals and programs of annual and monthly meetings teem with so many aural dissertations. And, on the other hand, I must confess that I bring before you no startling discovery nor miraculous cure, nor will I even present any rare pathological specimen. My only excuse for trespassing upon your time with such a hackneyed subject is purely from the fact that my clinical experience has impressed upon me certain truths which cannot always be found in text-books and which have not been given that degree of prominence which they deserve. There is probably no portion of medicine which opens up a broader or more inviting field to the quack and charlatan than is embraced under the dual word "catarrhal deafness." Deaf people are like drowning men, and a straw to such is always filled with restoring grace.

Barnum never uttered a greater truth than when he said "the American people like to be humbugged," and I have often thought that he must have had in his mind the deaf American people.

Deafness is a general term and but signifies a specific condition of the aural apparatus without designating the particular portion of the apparatus which is involved. Certain pathological conditions existing in any of the three divisions of the ear, external, middle, and internal, will produce deafness, and the question of diagnosis and consequent prognosis rests upon which portion is involved.

Routine or problematical treatment of any pathological condition should not be a habit possessed by any scientific physician. Because text-books lay down certain treatments in certain diseases is no reason why the physician should always follow such teachings. Cause and effect are closely correlated and the successful physician is he who studies closely the relationship of every accompanying sign and symptom. You may look around and note the successful consultant and you will find a man who studies minutely every case just as if he had never seen a similar one before. The principle enunciated in general, is still more applicable to him who undertakes to treat successfully aural diseases. Much advancement has been made in the last few years in aural surgery, especially that of the mastoid, but with this exception we have not made any wonderful strides since Wilde and Toynbee published their work some fifty years ago. This statement will probably be strenuously denied by many specialists of the present day, but such is made after a close perusal of an old book on "Diseases of the Ear," by Joseph Toynbee, F.R.S., published in London in 1860. With exception of better illustrations, as exemplified by the printer's art,

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and leaving out the operative treatment of the mastoid, and the failure to recognize adenoid vegetations as a usual factor in middle ear troubles, this old book of Mr. Toynbee's is as clear an exposition of aural diseases as can be found in any of the text-books of the present day. It is a good deal clearer exposition of the subject than the majority of the modern text-books, in that the author gives results obtained from personal investigation and experience. The plates in this book of anatomic and pathologic ear specimens are all taken from his own dissections and every portion of the temporal bone is beautifully represented. It is a pleasure and a profit to peruse the pages of this old book and in so doing I have gained much valuable information.

The arrangements and classifications are different from the more modern works and yet there is a logical sequence which appeals to the student. No subject is discussed without its being followed by illustrative cases from practice—a happy feature of any text-book—and it is surprising to find the treatment therein contained quite similar to much that is used to-day.

During the last few years there has been too much of a tendency, especially among specialists, to publish text-books and manuals showing their own name on the title page when frequently, and, in fact, most often, the whole work is nothing more than a compilation of the subject from older authors. I have never thought that such enhances the reputation of its author and adds nothing to our present knowledge.

Deafness due to some pathological lesion of the external ear as obstructions are, as a rule, easily recognized by the experienced otologist and likewise easily remedied. It is in diseased conditions of the middle and internal ear that deafness arising therefrom gives us the most trouble.

Physiological experiments and anatomic dissections must as yet be the chief factors in furnishing us with knowledge concerning the internal ear and a basis upon which to form a diagnosis when that organ is diseased. It is true that comparative tests, as, for instance, with the tuning forks, have given us much valuable information in reaching a diagnosis, but the experienced clinician will have to admit that even these tests are by no means positive. Leaving out of consideration the treatment of internal ear lesions as a cause of deafness, for when such has been recognized during life the treatment is quite uniform among otologists, we wish to consider for a few moments the pathologic conditions of the middle ear which produces this symptom and what benefit we may expect from the various methods which have been proposed for its remedy. We would make a still further limitation by considering the deafness dependent upon the so-called "dry catarrh" of the middle ear. Unless we recognize that even this dry catarrh presents two entirely different histopathologic conditions, our treatment can never be definite and it will be fortuitous should success attend our endeavors. In this day of quickly made specialists the public is made to suffer through ignorance, for they treat all cases alike, being ignorant of the very first principles which are needed for the recognition of these pathologic states.

"A primrose by the river's brim,

A yellow primrose was to him and nothing more."

It is plea for a more minute study of every case of deafness why this paper is brought before you to-day and to deprecate the habit of having a routine treatment for all cases. Bear in mind that I am not considering deafness dependent upon otorrhea, but those cases

where the drum is intact and the middle ear is not open to ocular inspection.

Clinical experience has taught me that prognosis in these cases is dependent upon:

1. Age of the patient.
2. The pathologic condition of the nose and nasopharynx.
3. Duration of the deafness.
4. Condition of the Eustachian tube.
5. Mobility of the drum and ossicles.
6. General health of the patient.

1. Age of the patient. All experienced otologists must agree that deafness in the young, dependent upon a catarrhal condition of the middle ear, is much more successfully treated than when it occurs in the adult and in the old. In fact, my own experience teaches me that success in treatment is in direct ratio to the age of the patient. This is accounted for in two ways: (a) The duration of the deafness is naturally longer the older a patient is, and (b) nasal and nasopharyngeal lesions occur more frequently in the young and as a rule are more amenable to treatment. One great reason why the prognosis of deafness in the young is so favorable is due to the frequency of the presence of adenoids and enlarged faucial tonsils, by the removal of which there is always a marked improvement in the deafness.

2. Pathologic condition of the nose and nasopharynx. The prognosis for a catarrhal deafness is always more favorable when there exists distinct morbid conditions in the above parts and which can be removed through appropriate treatment. The fact that the mucous lining of the middle ear and Eustachian tube is continuous with that from the nasal cavities and naso-pharynx readily accounts for the causal dependence between the two. Stenosis of the nasal chambers from all causes, nasopharyngeal catarrh from adenoids or the remnants of such are conditions frequently found which exert a baneful influence upon the functions of middle ear. If they exist and can be removed the prognosis for the deafness is certainly more favorable, although such conditions are not always a *proper hoc*. I believe, however, that too much importance has been attached to such morbid conditions, as mentioned above, and that the prognosis has been often more sanguine than it would otherwise have been. I would not have you think that I underestimate the close relationship existing between the catarrhal deafness of the middle ear and the pathologic conditions just mentioned, but that such are the whole cause when they exist, as some would have us believe, I would never admit. There is some undiscovered reason for deafness, look at it as we may, and until we discover it we shall never be able to tell why one patient who has a perfectly normal throat and nose is a sufferer with deafness and the man whose nasal cavities and naso-pharynx are both diseased goes through life untouched.

3. Duration of the deafness. This is self-evident to the experienced otologist. The longer the pathologic conditions which have aided in producing the deafness have existed the more marked are their influence on the tissues and consequently the more difficult are they of removal.

4. Condition of the Eustachian tube. For years this one organ in our body has been made to suffer for the sins of others. The idea that all catarrhal deafness is caused by diseased condition of the Eustachian tube, especially that of stenosis, is as deep-rooted in the minds of many physicians as is the Rock of Gibraltar.

That such is frequently the case all must admit, but that it is universally so is erroneous teaching. The habit of inflating every ear which comes to you for treatment is unscientific and sometimes injurious. While not so frequent, yet undue patency of the Eustachian tube may exist as well as stenosis. Experience has taught me some valuable lessons which cannot be found in books. There are two ways of ascertaining the patency of the Eustachian tube; the first is by means of the catheter and auscultation tube, and the second by means of bougies. No conscientious otologist should ever inflate the middle ear without using the diagnostic tube, for the sensations of the patient are too unreliable to be depended upon. By the constant use of the auscultation tube and the same catheter one can soon learn to diagnose the condition of the lumen, just as by auscultation the physician learns to diagnose the condition of the lungs and bronchial tubes. I say the same catheter because if different ones be used with varying sized lumens the sounds heard will also vary. The Politzer bag has been discarded for two reasons: (1) Because it frequently blows mucus from the nose into the Eustachian tube, and (2) because it is very difficult to keep clean. In chronic catarrhal deafness the medication of the tube and middle ear can only be satisfactorily accomplished by means of the catheter if we wish to obtain the best results. To my mind there is but one kind of catheter to be used and that is the pure silver, which is capable of being bent, and thus able to be made to fit the nasopharynx of every patient. To pass properly this instrument requires some little knack, and when the physician finds that he does not possess this quality he had best use some other method of inflating the ear, rather than injure the mucous membrane. The slightest trace of blood following the use of this instrument indicates that it has been used improperly. With children it is best not to use the catheter, and during the last few years I find that an apparatus like the multiple comminuter or globe nebulizer, attached to a compressed air-cylinder, accomplishes all that could be expected, and causes much less fear to these young individuals than any of the other methods.

5. Mobility of the Ossicles and Drum. Ankylosis and membranous adhesions in the middle ear prevent free motion of the ossicles when the drum is vibrated. As a rule, adhesions are surmised when the drum is retracted. The mobility of the drum and secondarily that of the ossicles is best ascertained by means of Seigel's pneumatic speculum, which produces suction in the external canal and at the same time allows ocular inspection of the drum. When this instrument shows distinct immobility of the head malleus and also the handle, and when only the free portion of the drum membrane moves backwards and forwards the presumption is very strong that the ossicles are ankylosed or bound down with adhesions. My own experience teaches me that the prognosis is much more favorable when the ossicles and drum membrane move freely together under the same traction force than when decided immobility is present.

6. General Health. Just as in other organs, so in case of the ear. A run-down condition of the general health makes the prognosis more unfavorable. Especially is this the case when the patient is of a tubercular diathesis. Pronounced anemia and rheumatism, in my experience, are always unfavorable. The tuning fork tests I have not considered, because in the first place, the results obtained by them are relative and, in

the second place, I have only considered those tests which are objective in character. The tuning fork in conjunction with other tests affords us frequently excellent information as to the seat of the pathologic process, but I must say that it has aided me very little in knowing what remedy to apply. Prognosis dependent upon the ability to hear the tick of a watch is exceedingly unreliable, and he who depends upon such will often come to grief. The human voice in different degrees of intensity has, in my experience, proven the most satisfactory test of all in determining the prognosis in any given case.

Passing now from the prognosis, I wish to say a few words in regard to some points in the practical treatment of catarrhal deafness. The modern treatment is based upon the principle that the large majority of such cases owe their origin to some pathologic condition of the nasopharyngeal or nasal cavities. Within certain limitations this proposition is true, and yet the otologist who treats his cases with this all-pervading idea will often be sadly disappointed. Nasal stenosis is one of the most frequent exciting factors in catarrhal deafness, and yet marked cases of this condition are found where the ears are never affected. However, there is a close relationship between the two. In catarrhal deafness the nasal passages should always be placed in as healthy condition as possible, but unless there is marked stenosis we need not expect very brilliant results from that treatment alone. Adenoids in children is the most frequent cause of deafness in these young subjects. The removal of such is frequently followed by the most brilliant results and always to the point of benefit. I would always urge the removal of adenoids at the earliest possible age before their evil effects have taken too firm a hold upon the subject. Such growths, in my experience, act not by direct mechanical obstruction of the Eustachian tube but indirectly by pressure, and more especially by fostering a catarrhal condition of all the membranes in their neighborhood. Their presence causes a constant congestion and hyperplasia of the mucous membrane lining the Eustachian tube, just as a polypoid degeneration of the middle turbinate will cause an enlargement of the inferior through pressure stasis. In adults, and even at all ages, the nasopharyngeal mucous membrane is sensitive and in the majority of cases needs soothing remedies, and the old idea of mopping at random this cavity with strong solutions of nitrate of silver is barbarous in character. Such applications may sometimes be necessary, but should be applied by means of cotton on the end of a wire passed through a catheter. This latter requires some delicacy of touch, but when rightly applied often produces the most happy results. Stenosis of the Eustachian tube, when due to swelling and hypertrophy of the mucous membrane, is best treated by applications direct to the membrane through the catheter, thus medicating the cavity of the middle ear as well. When there are distinct strictures of a fibrous character, whalebone bougies are exceedingly valuable, but exceedingly harmful if the physician does not possess that *tactus eruditus*. Rapid dilatation by means of electrolysis with metallic bougies has not obtained for me those excellent results reported by Ducl, of New York. I have tried this method in several cases, but with success no better than that obtained with the ordinary bougies. A precaution should be used of not inflating the ear after the use of the bougies for fear of producing a local emphysema, as once occurred in one of my cases.

I am decidedly of the opinion that the injection of

vapors into the middle ear is far inferior to the use of liquid medicaments. Iodine and menthol in liquid albolens have yielded me the best results. Fischerich, of Wiesbaden, has reported a great improvement in deafness from the use of injections of 6 to 8 drops of 2 per cent. solution of pilocarpine. I have also used an injection of liquid paraffin, as recommended by M. Burgher, but have never seen any markedly favorable results therefrom.

Pneumatic massage of the drum when there is a decided retraction of this membrane, with accompanying ankylosis of the ossicles from fibrous adhesions, has been receiving considerable attention during the last few years. In conjunction with other methods it has in some cases decided value, but is by no means a *sine qua non*, as some would have us believe. If Seigel's speculum shows us that only the peripheral portion of the drum membrane moves and the malleus and incus remain fixed we need not expect much benefit from this method of treatment. However, if all the parts move together, daily massage will prove a very valuable adjunct to the other remedies. It is not necessary to have an expensive apparatus, as I have found Seigel's speculum does for me all that could be expected and has the advantage of allowing one to see just how much suction is being exerted. When the malleus is fixed and immobile, instrumental manipulation is the last resort.

To sum up the treatment in a few words I would say:

1. See that the nasal cavities and nasopharynx are placed in as healthy condition as possible by the treatment of all catarrhal states and the removal of all obstructions to free respiration.
 2. See that the Eustachian tube and the middle ear are medicated at proper intervals in addition to the inflations.
 3. Render the drum and ossicles as pliable as possible by some system of massage.
 4. Don't forget the general health of the patient.
- Such is the outline of the treatment in catarrhal deafness and the prognosis is always a matter of uncertainty in the best selected cases.

Grand Opera House Building.

DIAGNOSIS AND TREATMENT OF STRICTURE OF THE OESOPHAGUS.

BY DR. G. R. JOHNSON, PHILADELPHIA.

IN the diagnosis of stricture of course we rely almost exclusively on dysphagia. It may be suddenly developed, as in the case of a foreign body, and in the nervous or spasmodic form. In most serious cases this is developed slowly, as in cancer. The patient is first conscious of arrest of food in the oesophagus, which he gradually is unable to overcome by mastication, and washing down with fluid. Then he tries to force it down by muscular efforts and by stroking the sides with the finger. The passage of food is painful, there may even be considerable dyspnoea. Another symptom is regurgitation of food, and the time of regurgitation depends on the site of the obstruction, being naturally sooner the higher it is situated. You can demonstrate by examining the food that it has never reached the stomach by the absence of hydrochloric acid—that is the diagnostic point.

But these means will not answer the question as to whether the stricture is organic or functional. To do

this you must pass the sound. The instrument which surgeons usually employ is made of whalebone, with an olive-shaped extremity. The objections to this are: First, it is so rigid that unless the surgeon is experienced there is danger of rupture in introducing it; secondly, it is apt to enter a pouch or diverticulum, and, thirdly, supposing it to have been passed successfully, the solid nature of the instrument prevents the passage of nourishment. So a hollow one has been made. After this is passed nourishment may be introduced while it is in place. Again, food returned through the hollow instrument may be examined.

We know the length of the oesophagus is 25 cm; the distance from the incisor teeth to the beginning of the oesophagus is 15 cm. Hence it is 40 cm from the teeth to the stomach. The length of the cervical portion of the oesophagus is 5 cm.; of the thoracic, 17; of the abdominal, 3, so we can tell just about where the obstruction is. Of course these calculations are based on measurements of average size. Another means of diagnosis recommended is auscultation, the ear being applied to the left of the vertebral column and the patient being required to swallow some fluid. It is only in the highest grades of stricture that this method is of value. In healthy persons the gurgling after swallowing is often not heard at all. I think it depends a good deal on whether air is swallowed at the same time. It is a fact of great scientific interest that an instrument the endoscope, has been invented to explore these cases, but it is so expensive and requires so much skill on the part of both physician and patient that it is not of much practical use. It is very ingenious, very nice for some specialist to exhibit at a society meeting, but of little use otherwise.

The course of the disease may sometimes be suddenly relieved, and this is in reality a bad sign. It is not due to cure, but to sloughing away of cancerous tissue. On the other hand, a stricture which has been giving little or no trouble may suddenly become complete and unless there is surgical assistance death from starvation follows. With reference to the prognosis much depends on the habits and disposition of the patient. As an example of this, a good many years ago a man was admitted to one of my wards in Blockley with a stricture so tight that not even fluids would pass. My colleague succeeded in gradually dilating it, and the improvement was decided. But no sooner did the man find that fluid would pass through than he obtained permission to leave and returned so drunk that he had to be discharged.

Is there any use in constitutional treatment? There may be, but only when the condition is dependent on syphilitic deposit or syphilitic ulceration, when brilliant results may follow the use of mercurials and iodides. So if there is the slightest suspicion of syphilis the physician may be able to effect a cure. All other means are of a surgical nature and consist in passing a sound. The frequency of the manipulation must depend on the success produced and the tolerance. Sound cases will require it daily and some once a week. Good results may perhaps be obtained by passing a rubber tube and allowing it to stay in place a week or two.

All manipulations must be of the gentlest nature, and if the stricture is not dilatable, gastrostomy is the only resort, and it is the duty of the physician to recommend it before the vital powers are so reduced as to render recovery impossible. In a report of five cases, the patients to whom the operation was suggested, all accepted the proposal but one. He was a

Russian general, who no doubt preferred death at St. Petersburg to operation at Berlin!

The most important therapeutic measure in consideration of the subject is regulation of the diet, both before and after the performance of gastrostomy. If strength could be indefinitely maintained by rectal enemata, the disease would be robbed of half its terror. While they are a supplement, sometimes necessarily a substitute, yet life cannot be maintained indefinitely in this way. The question has been made a study by many, and among these perhaps the most prominent is Professor Ewald. He has laid down some rules. First he says that the statement that only egg-albumen is absorbed in the rectum is false. At one time it was thought necessary to use a mixture consisting of finely divided meat mixed up with a certain amount of pig's pancreas and a certain amount of water. It was thought the ideal mixture and was put up in cans for use. But according to Ewald it is unnecessary to peptonize the food. In his mixture, two or three eggs are beaten up with a little cold water, added to a small quantity of starch, boiled in a half cup of a 20-per-cent. solution of grape sugar, and to this is added a little wine—a wineglass full. That is what he used—the “Ewald's egg mixture”—for rectal feeding. The entire amount injected at one time should not exceed eight ounces, and it should be preceded by an enema of simple water containing a little salt. This mixture can be used for a considerable period without irritating the intestine, if it is sent high into the bowel and slowly injected. It might be easily peptonized if required.

Then, again, suppositories made of finely divided meat used to be employed. There was an establishment where these suppositories were made. They are not much in vogue now, but I believe they are good. They can't, of course, be inserted so high in the intestine, and hence are not so good as enemata.

Unless in the meantime the physician has been successful in dilating the stricture, the operation of gastrostomy will finally have to be performed. Then the question of diet is still uppermost, and cannot be put aside. In the well-known marvellous case of Alexis St. Martin, studied by Francis Guernsey Smith, whom I know quite well, all kinds of food could be passed into the stomach through the opening. Ewald states that in a case under his observation, bread and butter, meat, potatoes and other vegetables were inserted immediately. But this is certainly not a physiological proceeding, for it excludes the action of the saliva. Saliva does not only digest starch but it seems to have a good deal to do with the digestion of albumen—that is, not directly, but if saliva is excluded from the stomach of an animal the food will remain undigested; and saliva seems to act by calling forth the action of the gastric juice. It is a peptogenic substance. Soup is a good peptogenic substance, although it doesn't digest food itself. The same is true of dextrin and other substances. This proves that the best mode of nourishment is that in which saliva calls forth the action of the gastric juice. The food should be thoroughly masticated by the patient and then ejected into a tube communicating with the stomach. It is not sufficient to exclude all starchy materials from the diet.

There is one objection to this method, and that is that a certain amount of food will be swallowed. This will decompose at the stricture, and give rise to dangerous symptoms. The patient will swallow other things; during the night he will swallow a large amount of mucus and saliva. So that in all these cases we

must attend to the “toilet of the œsophagus.” The dilatation above the stricture constitutes a species of incubator, and a fetor of the breath and frequent regurgitation of the fluid will follow. The œsophagus should be washed out every day with solutions of borax or boric acid, thymol, resorcine and so on, or small quantities of these drugs may be swallowed occasionally for the purpose of disinfection of the œsophagus. Ewald has suggested the use of small quantities of brandy every day. You see that the physician who has on hand a case of stricture of the œsophagus will have plenty to do.

CHLOROFORM.

BY J. HUBLEY SCHALL, M.D., BROOKLYN, N. Y.,

Late House Surgeon of the Emergency Hospital, etc.

AS I write I keep in mind the dread the American surgeon has to chloroform as an anæsthetic. Inexperienced chloroformists, however, may dispute over the question from their own standpoint. My object is to draw attention to the fact that chloroform if properly administered is as free from risk as any other general anæsthetic, as is shown by the history of its administration in the largest and best known hospitals of Europe.

In Germany there is a curious distrust of ether as an anæsthetic, more so than the fear of chloroform narcosis which seems to prevail in this country.

In America we frequently have pointed out to us the marked difference between the deaths under ether and those under chloroform. I think the preference given to ether is mainly due to prejudice. Then, too, a death occurring after the administration of ether is seldom attributed to the anæsthetic, but to shock resulting from the severity of the operation and not the effects of the ether.

We seldom hear of the deaths that occur weeks or months later due to ether irritation of the lungs or kidneys in individuals already afflicted with lesions of these organs.

In the fatalities under chloroform it is very different. It is a well known fact that death takes place at once, as the direct result of the action of the drug.

At the Czerney Clinic in Heidelberg I noticed that chloroform was administered by students with perfect safety, solely because it is given with the greatest care, especially as to its free dilution with air.

Dr. Dehner, of the Julius Hospital in Wurzburg, Bavaria, informed me that chloroform (Picket) has been administered in his clinic over 15,000 times within the past five years without a single death.

Von Nussbaum saw chloroform used 40,000 times without a death.

In the Edinburgh Hospital chloroform has been exhibited 36,000 times with but one fatal result.

Chisolm's, of Baltimore, experience with chloroform narcosis is worthy of respect. By his late report over ten thousand cases have been chloroformed without a fatality.

When chloroform is given continuously with a free dilution of air, and the respirations not interfered with, the patient continues to breathe quietly without struggling or involuntarily holding the breath, neither will he experience the slightest distress. On the contrary, the sensation is exceedingly soothing and agreeable as long as consciousness lasts.

Frequently I have seen the cone clapped over the nose and the mouth in a way that makes me dread its

administration. In every instance the patients struggle for breath, and if able will tell you they experience a sensation of burning and choking that feels as if pure alcohol was being poured down their throat. In a few moments unconsciousness comes to their relief—sometimes collapse. I am certain that death frequently ensues at this stage of the administration.

I know of two recent cases in which death occurred after the patient had taken ten or twelve full inhalations of the concentrated chloroform vapor.

It is positively true that greater skill is required in administering chloroform safely than any other general anæsthetic.

Of all anæsthetics, chloroform should never be "pushed." It should be given gradually, preferably by the "drop by drop" method.

Where the writer to take an anæsthetic himself, he would choose oxygenated chloroform, if subjected to an "emergency" anæsthetist.

As chloroform is administered so frequently in direct opposition to the principles laid down by the Hyderabad Commission, it is surprising to me that deaths under chloroform have not been more frequent.

I have made personal inquiries of the Chiefs of the Surgical Clinics in the principal hospitals of Heidelberg, Baden Baden, Wurzburg, Vienna and Paris, and find that ether is almost entirely discarded as a general anæsthetic.

My attitude in the consideration of chloroform as an admirable anæsthetic when indicated in the result, not of theoretical deductions or the opinions of those who have only administered it a dozen times, but of that best of teachers—experience.

ASIATIC CHOLERA.

BY DR. M. E. FITCH, PHILADELPHIA.

EVERY epidemic of Asiatic cholera begins in India, where it is constantly endemic. This is far from saying that the disease is scattered promiscuously through India. Its home is a portion corresponding to the presidency of Bengal. I will give a brief statement as to the hygienic conditions of the pestiferous place of interest. The soil of the district is largely alluvial. The southern portion is formed by the deltas of the Ganges and Bramaputra, and no part of the soil is as coarse as gravel. In the rainy season the ground is completely submerged, and the water accumulates afterwards in stagnant pools, which are infected with malaria germs. In the warm plains the rainfall is sixty-five inches. The hygienic surroundings of the natives are the very worst possible. The water supply in a village is from a tank filled with every kind of impurity, and it is impossible to imagine how the water can be worse polluted. As a rule this tank serves as a receptacle for human excreta and other abominations, yet so long as it is not polluted by the shadow of a pariah the water is swallowed. The clothing of the sick is washed in it, and when cholera is once started, it is easily imagined how the disease is propagated. In the report of one who was commissioned by the United States government to look into the conditions of this disease we read that these people are given to pilgrimage, thus converting the endemic into an epidemic or pandemic. Bathing is practised not so much for purposes of cleanliness as a religious rite, and it becomes pernicious in the extreme, for the native drinks the water in which he bathes. At Mecca a hundred thousand had skinfuls of water poured over them at the

same well and then drank. If any of the pilgrims were suffering from cholera many of them must become infected.

I have said enough to show the home of cholera to be a filthy one, and that the principal means of contamination is the drinking water.

In consideration of the treatment, a word or two about the prophylaxis is most important. The ideal of course is the extinction of the disease at its home in India, or failing that, the prevention of escape from there.

The discharges, according to one authority, should have mingled with them an equal quantity of a solution of carbolic acid, one to twenty. They should then be allowed to stand for twenty minutes, and be emptied into a pit of unslacked lime and covered up. You can see this is only practicable under special circumstances. If the patient has twenty or thirty evacuations a day the nurse could not do this every time. The discharges can be mixed with an equal amount of corrosive sublimate, 1-1,000; this can be allowed to stand an hour and then can be emptied into the sewer. You should soak the bedclothes in carbolic acid, 1-20, or sterilize them with steam, or corrosive sublimate, 1-10,000. The patient's mouth should be rinsed out with a saturated solution of boric acid after each period of vomiting. The hands should be washed with corrosive sublimate after handling the patient. No one should be allowed to eat in the same room with the patient.

There are certain rules of prophylaxis for the well which it is comfortable if not criminal to neglect. All causes of gastro-intestinal catarrh must be avoided, irregular hours for meals and stimulating foods. The functions of the skin must be maintained by daily bathing, yet chilling of the surface is to be avoided. It might be inadvisable, however, to advise the discontinuance of the daily cold bath in people who are used to it. The wearing of a broad flannel girdle around the waist is advised, and it may be of value in inspiring the wearer with confidence. Raw food and drink are not to be consumed. Boil the water and milk shortly before it is to be consumed. Water drinking on an empty stomach is dangerous, because it diminishes the acidity of the gastric juice. Drinking water is largely a habit; people take more than they need, as a rule, I believe. During an epidemic signs of gastric disorder may be of vital importance. If they can be traced to undigested food, the stomach should be emptied at once with emetics; apomorphine is safe and speedy in small doses. Diarrhoea must be treated by absolute rest and an opiate, with bismuth, salol or naphthalene. Calomel has been largely used in this stage, and it has been abused. There are more powerful and less harmful agents. Calomel is the only purgative that is a marked antiseptic, and should be used when we believe the stomach contains a lot of undigested food. No one doubts the efficacy of opium in preliminary diarrhoea.

If we come to the second stage of the disease the treatment is symptomatic. Vomiting usually forbids giving medicine by the mouth. We can make attempts to allay the irritation by ice, lime water, carbonated water and champagne, and ice to the epigastrium. We can treat the diarrhoea by warm astringent injections. Immediately after an evacuation inject a quart or more of the following preparation, according to Cautani:

Sterile warm water or infusion of camomile.....	ii liters
Tannin.....	v-x grams
Laudanum.....	xxx-l drops
Powdered gum Arabic.....	i grams

The tube is passed well in, and if given in the dorsal recumbent position, as it should be, the fluid will pass well through the colon. Excellent results have followed this treatment, and it is claimed it will prevent collapse. The warm bath is good, and as soon as there is serous diarrhoea, cramps and vomiting, the patient may be placed in a bath the temperature of 100° or 102° for fifteen or twenty minutes. The patient is then removed, wrapped in warm flannel, and given hot tea or lemonade to drink. This may be repeated several times daily.

In most cases the patient reaches the stage of collapse before the doctor sees him. Then the indication is to restore to the blood the fluid drained away, by intravenous injection or by hypodermoclysis. The first of these was introduced by Latta in 1832. Fifty-two years later the method was revived in Paris, and rules formulated for its administration. The temperature of the saline solution is to be as nearly as possible the rectal temperature, varying between 100° and 105°. The dose is from two to two-and-a-half liters. It matters little how it is injected. The immediate effects of the operation are striking. Intelligence revives, the pulse is fuller and more regular, cyanosis disappears and the temperature becomes normal. The urinary secretion, if it has been suppressed, does not immediately reappear; the earliest period at which we can expect it to be reestablished being twelve hours. The urine first voided is albuminous. The ominous signs of algidity are apt to reappear, and the question is whether to repeat the operation. Enormous quantities have been transfused, and the operation is devoid of danger. It is claimed that in a dog a quantity double that of the blood may be injected. Sixteen quarts have been injected during thirteen hours in one man with impunity. The percentage of cures may be regarded as large. The tendency always is to postpone operation until the chances of recovery are slight. One should not wait too long.

Another method, that of hypodermoclysis, was used first by Cautani, of Naples. Out of 187 treated in this manner by Cautani and his pupils 114 recovered, and the claim is that the number of deaths is reduced about one-half by this operation. The solution used consists of sterilized water, with three per cent. sodium chloride and four per cent. sodium carbonate. The best sites for the operation are the lumbo-abdominal and inguinal regions, though I have introduced considerable quantities in the thigh. The effects are as immediate as those of transfusion, while the ease with which the operation is done gives it a decided advantage. I think it is bound to be largely employed in cholera.

A word or two about the stage of reaction. Here absolute quiet should be had, and, as soon as the stomach permits, nourishment is given. The symptoms of cerebral excitement are due to the absorption of toxins or to the malnutrition of the nerve centers. Blandest forms of nutriment are to be given, as milk and lime water, or whey with or without wine, in teaspoonful doses. If this is retained it can be followed by mutton or chicken broth in the course of a few hours. The only article a patient in this stage craves is water, but if this be allowed ad libitum signs of collapse are the almost inevitable consequence. Small doses of morphia may be given, 1-12 to 1-24 grain, frequently repeated. It stimulates, and allays gastric irritability and allays thirst. It may be given in the following prescription:

R Sulph. Morph. gr. i
Dil Acid Sulph. f ʒ ii
Water or some elixir a. l. f ʒ iij

If you give as much as one-eighth grain at a dose the patient may be narcotized and poisoned. Alcohol is not well borne, but if the stomach continues irritable a little brandy or whiskey or champagne may be given. I've not seen champagne do much good.

If the symptoms of cholera typhoid set in the skin should be sponged with warm water, and the general warm bath is good. The reappearance of the urine is anxiously watched for, but there are no diuretics that will restore the function.

In 1885 Dr. Feran inoculated a number of persons with attenuated cultures of the cholera bacillus. Reports on his work were adverse, but subsequent statistics affirm his success. Dr. Edward O. Shakspear, of Philadelphia, visited Feran and was considerably impressed. Official statistics, if reliable, seem to confirm the claim of Feran that a considerable degree of immunity is conferred by inoculation. It was estimated that 77 persons out of 1,000 among the non-inoculated were attacked with cholera, and the deaths were 33½ per 1,000. Among the inoculated those attacked numbered 13 out of 1,000, and the deaths 3½ out of 1,000. The only method of disproving the claims of Feran is by proving the fallacy of the statistics. The culture can be injected without any serious results.

To recapitulate: Cholera is a disease amenable to treatment in the first stages by the application of astringents, and intestinal antiseptics, as calomel, salol and the salicylate of bismuth. The best astringent is tannic acid. During collapse restore the fluid to the blood by saline transfusion or hypodermoclysis, the latter being preferable. Fever calls for the treatment for fevers in general and especially for the judicious use of nourishment.

THE TREATMENT OF GASTRIC ULCER.

BY DR. ELIAS WILLIAMS, PHILADELPHIA.

AS to the diagnosis of gastric ulcer, when the signs are typical, as pain after eating, vomiting followed by temporary relief, and hæmatemesis, the diagnosis may be made with great accuracy, especially if they occur in a patient of female sex. The occurrence of these symptoms with hyperacidity of the gastric juice makes the diagnosis as certain as that of any other disease of the digestive organs. But such an assemblage of proofs is unusual and the disease is more often overlooked. The late Dr. Henry Formad was accustomed to say that the diagnosis of gastric ulcer was never made, but such a statement would never be made by a practicing physician, which he was not.

Affections with which this disease is most apt to be confounded are nervous gastralgia and cancer. The pain attending nervous gastralgia bears no constant relation to the taking of food, and it is never accompanied by vomiting of blood. There are apt to be with it other forms of neuralgias also, and there should be no difficulty after studying the case. How is the disease to be differentiated from cancer of the stomach? First, cancer occurs at an age more advanced as a rule, and is characterized by the rapid development of profound cachexia and enlargement of the supraclavicular glands. There may even be a palpable tumor, and there is the absence of hydrochloric acid from the gastric juice and the presence of organic acids. Then hæmatemesis is usually more frequent, and we are more apt to have the coffee ground vomit. Ewald gives an elaborate

table in which the chief differential points between these three diseases are given in considerable detail. But he detracts from the value of his table by saying that these differences are more easily stated on paper than found in reality! Another condition with which gastric ulcer may be confused is hepatic colic. In typical cases of gall stones there is no difficulty, but when the pain in hepatic colic is nearer the middle line—as after tight lacing it may be—or when the ulcer is well to the right of the stomach near the pyloric orifice and the pain is in the right hypochondriac region, and when the ulcer is accompanied with jaundice, the differential diagnosis is not to be made in an off-hand manner. It must be made by study, by especially careful examination of the gastric contents. Of course the vomiting of blood would tend to settle the question.

Considering the difficulties attending the diagnosis, it would seem impracticable to attempt to tell the seat of an ulcer. Yet in all the text books you will see rules given for finding the exact seat; and I think some data may be gained from noting the position of the pain. But the physician who has seen the most of the disease will be content to tell that there is an ulcer.

What about the prognosis of the disease? Of course, we can give statistics about the prognosis of the disease in general, but what we want to know is whether this individual patient is going to live or not. The prognosis must be made with care. Danger is constantly present till the ulcer is healed, and then the stomach is crippled more or less by the cicatrices formed by the process of healing. In absence of copious hemorrhage and perforation there is reason to expect cure. The same is to be said in the case of typhoid fever, and that is about all we can say. This is borne out by the rarity of finding healed ulcers in post-mortem examinations.

In the treatment, it is most important that the patient have rest, both general and local. The patient should be put in bed and nourishment supplied by rectal enemata. The rule of Ewald in regard to this was to continue the rectal enemata for three days and then begin giving food by the mouth, but my opinion is that it is safest to continue them for a week. The sense of hunger may be obtunded by the use of opium. No absolute rule can be laid down for the length of time that this form of nourishment can be continued. When nourishment by mouth is resumed it should be of the blandest character, consisting at first of milk or gruel, and this should constitute the food for two or four weeks. It may be warm and mixed with lime water, or if the gastric juice is very acid, bicarbonate of soda may be added. If milk is found to coagulate in curds as it might do in the acid stomach a trial might be made of buttermilk. Then again this is sometimes prevented by adding flour previously boiled in water, or the milk may be peptonized. Then the ordinary diet may be resumed, but the patient should live largely on eggs, broths of mutton or chicken, etc.

The medicinal treatment of gastric ulcer is undoubtedly conducive to the process of healing. There is a general sentiment in favor of subnitrate of bismuth; but there is no use in giving it in little doses of five or ten grains. At least one-half dram should be given three or four times a day; and doses of three drams have been given, suspended of course in water or some other liquid as mucilage or barley water. Benefit is also to be derived from nitrate of soda. One-fourth grain three or four times should not be exceeded. Pain may be relieved by morphia; and vomiting by abstinence

from food, by morphia and cocaine, hæmatemesis by ergot, small pieces of ice, rest, gallic acid, lead is also of value. If there is danger from loss of blood the intravenous injection of a saline solution may be tried. The springs of Karlsbad enjoy a well earned reputation for the cure of gastric ulcer, and are called the mecca of these patients. It is probable that those who cannot make this pilgrimage may derive benefit from drinking the water in their homes.

When the patient is suffering from chlorosis or other forms of anæmia attempts to cure them may be made after the acute symptoms have subsided, by giving iron. There is nothing better than the albuminate of iron; you can get it ready manufactured by chemists, but you can make it yourself. First you make a two or three per cent solution of the sesquichloride of iron. Take of this one dram and mix it with a wineglassful of egg water, which is simply a solution of albumin made by taking one part of white of egg and two parts water.

There is a more elaborate method of treatment than any to which I have referred, and a more modern method. It is that of Prof. Leube. He gives the details of treatment and also the indications for surgical interference. His opinion is of value, both on account of his world-wide reputation and his experience with cases of gastric ulcer. The chief features in the treatment are the systematic use of poultices and cold water compresses, together with the use of Karlsbad water, and a carefully regulated diet, medication being altogether secondary and not always necessary. Rest in bed is important. He puts the patient to bed and keeps him there for ten days. On the first day the stomach is washed out, and after the abdomen is protected with boric acid ointment a poultice is placed on the abdomen. It is changed every ten or fifteen minutes and this is kept up for ten or twelve hours during the day. At night cold water compresses are put on instead of the poultices. The ointment is changed once a day. The epigastric pains and tenderness disappear, as a rule, about the fifth day. When they persist the poultices are continued during the day for five days afterwards. After the poulticing is stopped the cold water compresses are used at night for three weeks, while a flannel bandage is worn during the day. An important part of this is that the patient is kept at rest. This treatment is applicable, according to Leube, in the vast majority of cases, but is contradicted in hæmorrhage. The patient is not poulticed unless three months have elapsed since the last hæmorrhage. The fecal discharges should be examined, and if blood is found in the stools, the inference is that hæmorrhage has taken place in the stomach.

The patient is also placed on the use of Karlsbad water, drinking it before breakfast, with pauses at each mouthful. Drugs are not employed as a rule, except when the pain is severe; narcotics are never employed. In constipation an enema is given. The diet is described at great length, but I will not repeat it now. He laid great stress on a meat solution prepared by himself. In the cases in which he has carried out this treatment the mortality of the disease is vastly less. The ordinary mortality is thirteen per cent., and of his cases the mortality was only about two per cent. The only cases which he lost died, one might say, from accident; so this is a method worth trying and one which is easily carried out.

MALIGNANT DISEASE OF THE STOMACH AND PYLORUS.*

BY WILLIAM J. MAYO, M.D.

Surgeon to St. Mary's Hospital, Rochester, Minn.

CANCER of the stomach must be considered a surgical disease, and a suspicion of gastric carcinoma should cause the physician to send the patient to the surgeon for exploratory excision to complete the examination. The same principles should govern here as in possible malignant disease of the breast or uterus. The great difficulty which arises in carrying this proposition into effect is a question of early diagnosis. The surgeon must not ask for a diagnosis of cancer of the stomach; if he waits for that he will be too late. In a suspicious case the facts should be laid before the patient to decide as to exploration. The curability of cancer of the stomach depends upon (1) the histological structures of the neoplasm, (2) its location, (3) extension to neighboring structures, (4) lymphatic infection and the general condition of the patient. It is essential that the relative value of the manifestations of the malignant process be studied, for upon a pound of correct appreciation of the conditions present depends the whole question of radical cure.

The rapidity of the progress of carcinoma of the stomach is influenced, to some extent, by the relation of the cells to the stroma. If the cellular elements predominate the growth is soft and its extension rapid. If the stroma is in excess of the parenchyma, the tumor is harder and slower of growth.

The location of the growth is important, an early diagnosis depending to some extent on the mechanical features present, and the accessibility of operative procedures is very largely determined by the situation.

Direct extension to surrounding structures is through advanced adhesions and along these bands the malignant infiltration takes place. In the beginning, the adhesions are protective in character and due to the toxins of cancer rather than direct infiltration of cells. In most cases this is a late phenomenon and acts as a contra-indication to operation. In twenty-eight cases of non-malignant dilatation of the stomach from various causes which I have operated upon, in more than half enlarged glands could be palpated, due to an accompanying chronic gastritis.

This may be and frequently is true of cancer of the stomach, the enlarged glands being the result of septic complications. The modern operation for the removal of the glands with carcinoma of the breast suggests a similar glandular extirpation and radical operation upon the stomach.

Linder does not believe this feasible. In twenty-eight recurrences after extirpation fifteen were local, twelve distinct, and only one involved the glands. An investigation leads to the belief that glandular infection in cancer of the stomach is not uniform, many cases die without such involvement, and that a moderate enlargement may be septic. Should they become infected their situation renders radical removal practically impossible.

Malignant disease of the stomach has a peculiar depressing effect upon the patient. The nutrition is bad and healing power is greatly impaired. Ascites, even in a limited degree, contra-indicates operation, while a cachexia, out of proportion to the demonstrable disease, is of bad omen.

* Read before the American Surgical Association, Washington, D. C., May, 1900.

The writer has at times experienced considerable difficulty, after opening the abdomen, in ascertaining the real condition. What are the local appearances which enable us by palpation and inspection to say that a certain thickening of the stomach wall is malignant? There are no definite signs which occur in all cases, and much depends upon the experience of the surgeon. Czerny's observations in this respect are very interesting; four of his cases in which gastroenterostomy was done for supposed malignancy lived so long as to preclude a possibility of cancerous disease. It is hardly practicable to remove a portion of the growth and have a microscopical examination made before finishing the operation. Nor is such practice devoid of danger of inoculation.

Malignant disease too far advanced to extirpate, and not presenting symptoms requiring palliation, should be closed by the Halstead method, which safely allows the patient to get about in a few days and leave the hospital in a week.

Complete removal of the stomach has won a foothold, but to what extent the future only can determine. The more radical belief that even if the disease has affected but a limited and apparently excisable portion of the stomach the whole organ should be removed, that pylorotomy and partial gastrectomy are not based on correct principles, and the large percentages of local recurrences after partial operation certainly give color to their view. This position is, however, not tenable, as the partial operation has achieved triumphs in the ring-like infiltrations at the pylorus. It is altogether probable that complete gastrectomy is destined to become a most valuable operation.

Operations limited to the pyloric end of the stomach and its immediate vicinity have been largely practiced for malignant disease, and the results, taken as a whole, have not been satisfactory. A few cures have taken place in exceptionally favorable cases, mainly the malignant strictures where the mechanical effects lead to an early diagnosis and operation. The difficulties of diagnosis have rendered late operations the rule, and the absolutely unfavorable prognosis has encouraged operation in many cases unfit for so serious a procedure. The results, both immediate and remote, have been correspondingly bad. Two years ago, within a period of six months, the writer successfully performed pylorotomy and partial gastrectomy in three cases; up to that time no case had been explored sufficiently early to permit of a radical operation, and I regret to say that although encouraged by these cases to greater efforts, in all of the cases explored since that time, nothing further than palliative operation has been indicated.

The Kocher operation for pylorotomy and partial gastrectomy has been adopted by surgeons generally, and, while modified in some particulars by various surgeons, can be considered the best plan of attack. It avoids the fatal suture angle of the Billroth method by completely closing the stomach ends and forming an independent anastomosis between the duodenum and the remaining portion of the stomach.

Obstruction of the pyloric opening and the gastric retention which results most often demands relief. Gastroenterostomy is the most generally useful operation performed on the stomach, in suitable cases prolonging life, relieving pain and promoting comfort. It would be an unprofitable undertaking to go into the various methods of making an anastomosis. Two methods have stood the test of time, the simple suture operation and the Murphy button; at the present stage of

development the results are about the same, depending more on the experience of the operator than the method employed. There has been considerable discussion whether the anterior operation of Wolfier or the posterior operation of Von Hacker is most suitable. The latter necessitates an artificial opening into the lesser cavity of the peritoneum to get to the desired part of the posterior wall of the stomach, and requires a larger incision with greater exposure. Its supposed advantages are that gravity will aid in passing the food downward, and, if the button has been used, that it is less liable to be retained in the stomach, and, lastly, that regurgitant vomiting of bile and pancreatic juices is less frequent, all important points in favor of this locality for anastomosis if true. It is open to question if it is true in any particular; and, so far as I have been able to judge from somewhat careful examination of the literature, there is in reality no difference in the results, and, as the anterior operation is simpler, I prefer it.

For the anterior operation a point on the healthy part of the stomach should be chosen as near the pylorus as will probably remain free from encroachment of the disease. It should be placed near the greater curvature. In my cases I have tried to get the anastomotic opening about one inch above the inferior border of the stomach. When completed the traction weight of the attached bowel draws the stomach over until, at the point of attachment, the anterior wall of the stomach becomes the inferior, and a funnel-shaped entrance into the bowel is secured. In thirty-one gastroenterostomies which I have made for benign as well as malignant disease, in only two cases, both malignant, was regurgitant vomiting marked.

The suture operation of Fenger is an ideal method. Practically it performs the office of pyloroplasty upon the anterior wall of the anastomotic opening, enlarging its calibre and preventing the evil effects of contraction and spur formation. I have used the Murphy button without supplementary suture in all of my cases; three out of the eleven malignant cases died, and one out of twenty non-malignant.

NOTES ON A CASE OF RABIES IN NEW YORK CITY.*

BY H. TAYLOR CRONK, M.D.

THE history of the case of rabies I was fortunate enough to observe during my service at Gouverneur Hospital in 1896, I cannot find, but as near as memory permits I send these notes for your consideration, trusting that, even though meagre, they may be of some service to you.

Boy age about 16 admitted 8 P. M. Ambulance. Boy went to investigate some noise he heard in the cellar, found a full-grown cat, and in attempting to drive it away or pick it up, it bit his left hand in the fleshy part, ulnar side, inflicting a severe lacerated wound. I think the father or some other member of the family heard the boy's cries and came to his rescue, and killed the animal, also receiving a bite. The boy was taken to a physician or drug store, where the wound was cauterized, how I do not remember. The wound healed kindly, and nothing further was noticed until six weeks after, when he had pain, I cannot say where (I think in the wound), and began to have convulsions or strange feelings about the throat. On admission, was strapped to the stretcher securely, and having rapid convulsions of throat, limited to the anterior part. He asked to

be unfastened, and said: "I won't bite, please unfasten me." I unfastened him and had him climb upon the examining table, which was done with ease. His mind was very clear and he was thoroughly rational.

Convulsions occurring only with attempts at swallowing. Salivation was very profuse, and, continually trying to clear his throat, severe expiration accompanied by a noise that might be mistaken by some for a so-called bark. I caused the water to run in the sink where he could hear and see it, but neither caused the attack. To further test I asked him if he was thirsty. His reply, "A little, but every time I attempt to swallow, my throat closes up." Later he complained of being thirsty and some pain in his chest. I tried to have him drink some vichy and milk; he would put it to his lips and then say, "Wait awhile and I will drink it; do not take it away because I will want it presently."

Finally I told him to get a mouth full of plain milk and let it run to the back part of his throat and then swallow rapidly. This he did, but it produced the most violent convulsions of the throat, the milk returning through his mouth and nose, all the while tearing at his mouth with his hands, to relieve it of its contents. It is almost impossible to describe these convulsions.

The mouth opens wide, the tongue drawn back and arched, the lips drawn away from the teeth, exposing them, the nose dilated and elevated, the eyes wide open, and the pupils fully dilated, as from the use of atropine. Eye-balls injected, face cyanotic. The platysma muscle standing out in cords. No flexion of neck; head erect as when standing.

The expression is one of anxiety. This is simply due to the arrested respiration or choking, and the hands making frantic efforts to remove from the mouth and throat the increased flow of saliva, with voluntary expiration and noise of clearing the throat, showing complete consciousness during the attack. There is no snapping, but the constant movement of the mouth and tongue to remove the mucus which by this movement becomes frothy. These last from one-quarter of a minute to a minute, when a sudden relaxation occurs and all features return to the normal. Even the pupils of the eyes contract until they are about the same size as those observing. The salivation kept up undiminished in quantity until almost the end, and at first he kept taking it from his mouth with his fingers and throwing it anywhere, doing this because, as he said, "He could not spit fast enough."

Later I had him use a towel, but as this was not convenient enough I had him hold his head over a pus basin and permit the flow to fall into it. This diminished the convulsions somewhat in frequency, although the intense constant desire to swallow was always present. As long as he kept this desire in check the convulsions would not occur, but when it became irresistible they returned; illustrating that the attempt only to swallow was productive of the paroxysms. The mucus was a semi-watery transparent clear fluid, and ran from his mouth in a slow, stringy stream about the size of a small goose quill. He was somewhat restless, and turned from one side to another, but this was most marked with the head.

Early he preferred to have his legs drawn up, but later complained of them being heavy and cold, although they were warm to the touch.

On ordering him to the ward I tried to have him walk to the elevator, but while he could stand, he could not walk where one and one half hours before he walked to the examination table and climbed upon it unaided.

*Read before the Section on Medicine, New York Academy of Medicine, April 19, 1900.

Still later he complained of his legs being heavy and could not move them; his hands were "too tired" to wipe his face; the convulsions occurred after longer intervals until they finally ceased for probably one hour before death, although consciousness persisted until death. At this time he called the nurse to him, and as she went he died at 1 A. M.

Respiration slightly increased, but more from apparent exertion than from sepsis or embarrassment. Pulse I think increased, but cannot remember, temperature on admission, 102 F.; two hours later, 104 F.; at death 107 F.; one-half hour after death, 108 F.

Secretion from lachrymal or nasal glands not increased. Throat and tonsils not inflamed or enlarged. Tongue not swollen. At one time he accidentally spat in my face so that my eyes, nose and mouth were covered with saliva, and my hands were continually moist from it and no antiseptic was used. Although I bathed my hands and face with soap and water no symptoms developed in me whatever.

Treatment. When admitted to the ward 30 grains of chloral hydrate and 60 grains of sodium bromide were given per rectum, but no evidence of their action whatever was noticed. The skin was moist, but no profuse perspiration at any time although the head and neck were wet.

I do not remember the autopsy results, although I remember performing one upon him.

HERNIA OF THE BLADDER THROUGH THE PELVIC FLOOR FROM THE TRACTION OF A SUB-PERITONEAL FIBROMA.*

BY FRANCIS B. HARRISON, M.D.,

Visiting Surgeon to the Massachusetts General Hospital.

A FIBROMA with attachments extending from the left labium majus to the left buttock arising from the subperitoneal tissues in front and to the left of the bladder had drawn the bladder out of the pelvic cavity through the fibers of the levator ani muscle. Nearly the entire bladder was enveloped by the tumor, which hung between the patient's legs. The tumor was 18½ inches in circumference and 8½ inches long. When the bladder was emptied the tumor decreased 2½ inches in circumference. The bladder held twenty-two ounces of urine without discomfort to the patient. The urine did not flow until a soft rubber catheter had been inserted eight inches. The tumor was removed and the hernia of the bladder reduced by a combined abdominal and external operation. The fundus, the broad ligaments having been separated from the uterus, was drawn down by a silk ligature, so that it acted as a plug to the hernial opening. The patient was able to pass her urine on the day following the operation. She made a good recovery when seen six months later. She was in good health, able to do all her work as cook. The uterus remained in its abnormal position, antesisinistroversion, without causing trouble of any kind. Hernia of the bladder through the pelvic outlet is very rare. Ebner was able to find records of only ten cases. Brunner could find no case in medical literature since 1860. Modern operative methods would seem to justify the use of the abdominal route when necessary. The average age of patients with hernia of the bladder of all sorts is 50 years. Age and a feeble condition are common accompaniments of bladder hernia.

*Abstract of a paper read before the Am. Surg. Association, May, 1900.

THE SURGICAL TREATMENT OF SIMPLE DILATATION OF THE STOMACH AND OF GASTROPTOSIS.*

BY B. FARQUHAR CURTIS, M.D., NEW YORK.

L USCHKA'S position of the stomach may be accepted as normal—the pylorus lying behind a point on the right costal border which would be intersected by a horizontal line passing through the tip of the ensiform cartilage. The lesser curvature passes to the left from this point and forms a half circle around a horizontal line passing backwards through the ensiform cartilage, and lies out of reach to palpation, unless displaced downwards. According to Pacanowsky the lower limit of the slightly distended stomach, as determined by percussion, lies in the parasternal line, 3 to 5 cm. above the navel in males, and in females 4 to 7 cm.

A. Gastrectasia means dilatation of the stomach—weak muscles with a normal pylorus, or normal muscle with obstructed pylorus. Obstruction of the pylorus is not always followed by dilatation. Obstructive dilatation is treated by others in this discussion, and we shall consider only simple or atonic dilatation. Atony of the muscles of the stomach and gastroptosis are often found together, but seldom as cause and effect, both being generally the result of a common cause. Atonic dilatation is very seldom acute, but is seen sometimes after an abdominal injury or operation and sometimes from some unknown cause. The symptoms resemble a combination of a high intestinal obstruction and uræmia. Recovery is very rare; probably medical treatment offers the best prospect. Chronic atonic dilatation seldom reaches a degree which demands surgical interference. The diagnosis depends upon the physical signs demonstrated by distending the stomach with air through the tube or with carbonic acid gas generated by giving bicarbonate of soda and cream of tartar separately. Motor insufficiency can be proven by finding food in the organ over 6 hours after it has been taken, or by the salol test.

Surgical treatment of gastrectasia consists in gastroplication or gastroenterostomy. Gastroplication, introduced by Bircher and by Weir, consists in folding in the anterior wall of the stomach longitudinally upon itself and securing the folds by sutures. Robson has lately collected 28 cases of this operation, with 2 deaths, but one death occurred 2 weeks after operation of "syncope." In 17 cases there is no late report. In one case pyloroplasty was also performed and in another it was done later. One case had a pylorotomy later, and in one other case of obstruction the pylorus was left untouched. There are six cases remaining, who were well 3, 3, 2½, 1, and ¼ year later. In properly selected cases the operation gives good results, but it should not be performed if there is obstruction of the pylorus—that condition must first be relieved. Very rarely do we find the dilatation continuing after removal of the obstruction—as in Weir's case. The greatest pains must be taken not to overlook spasm of the pylorus, which is quite common, and demands relief by more effective means.

Gastroenterostomy, even with a mortality of 10 per cent. or lower, is more dangerous, but it has the advantage of curing cases with pyloric stenosis which would not be cured by gastroplication.

*Abstract of a paper read before the Am. Surg. Association, May, 1900.

B. Gastropotosis can never be complete because the cardiac orifice must remain attached to the diaphragm. There are three varieties: 1, A slight descent of the pylorus; 2, "vertical stomach," the pylorus descending so that the lesser curvature becomes vertical; 3, and rarest, a U-shaped descent of the lesser curvature, the pylorus remaining fixed. The stomach is too low if the lesser curvature can be palpated, and descent to a slight degree is very common. Meinert claims over 80 per cent. of women have gastropotosis. Symptoms may be absent even in severe displacement. Descent of the kidneys, liver, and intestine are commonly associated with it. The diagnosis is made by inflation of the stomach. Several operations have been done for this condition. Depage (Hannecart) excised vertical and transverse segments from the abdominal wall so as to increase the support, and had good results in 2 cases seen 5 years later. Treves inserted sutures through the falciform and round ligaments of the liver. Duret, Roosing, and Davis secured the anterior wall of the stomach to the peritoneum of the abdominal wall. Beyea shortened the gastrophrenic omentum by a row of sutures. Several added nephrorrhaphy (right side) to these operations. The results appear to be good in the few cases followed, both as to function and relief of pain and as to position of the stomach. No deaths occurred. We may conclude that the operations are promising, the method of suture of the stomach to the anterior abdominal wall being the best, aided by nephrorrhaphy and hepatorrhaphy, and similar supporting operations upon the genital organs in women. In extreme cases Depage's suggestion might also be applied in addition.

METHODS OF CLOSING ABDOMINAL WOUNDS.*

BY MAURICE H. RICHARDSON, M.D.

THE method of suture to be preferred is that which is simple and rapid of application, provided that it gives permanent strength to the line of incision. The simplest, most rapidly applied suture is the through and through suture. This should be applied from within outwards at intervals of perhaps half an inch to an inch.

The material to be preferred in most cases is silkworm gut tied not too tightly. The sutures should remain at least two weeks before they are removed.

The advantages of the through and through suture, besides their simplicity and rapidity of application, are chiefly the obliteration of dead spaces, and the diminished liability to infection of the exudations which so frequently distend them.

The writer expressed his preference for this method of suture after an experience of many abdominal operations of all kinds.

The larger suture gives a better approximation of structure—muscle, fascia and peritoneum—but accurate approximation of that structure does not necessarily make a stronger scar. The layer method takes more time and is more likely to be followed by sepsis.

This has been seen in the more frequent occurrence of sepsis in hernia, when layers must be used, than in ordinary wounds that can be tightly closed by through and through sutures.

The kind of suture material buried in layer suturing has had no especial influence in causing sepsis in hernia; the absorbable suture being quite as frequently followed

by sepsis as the non-absorbable. For many years the writer had used silver; of late years silk. Silk is preferable for ligatures and for buried sutures, whether inside the abdomen or in the abdominal wall.

A not infrequent accident is the bursting open of all incisions a week or two after operation. This accident may occur after the absorption or weakening of alleged buried sutures, or after the too early removal of through and through sutures. The latter should therefore be left in at least two weeks. When buried sutures of silk are used there is no danger of this accident.

A combination of through and through suture with layer suture was then described. The through and through suture is first applied through all structures, including the peritoneum. The ends of these sutures are thus held taut, to prevent the catching of intestine as overturn in the loops, while sutures are being applied to the layers. The through and through sutures are tied back. By this method, which, in one form or another, others have doubtless used, the advantages of both methods are secured.

The occurrence of hernia in the scene of clean-operation wounds must be very rare. In the past five years, in 1,580 clean-cut operations at the Massachusetts General Hospital, but 12 ventral hernias have presented themselves for secondary operations. During this same period 9 were admitted following operations performed by surgeons outside the hospital.

In private surgery the percentage of operations for recurrence is still smaller. The number of operations for ventral hernia, either after the writer's own operations or after those of other surgeons, is insignificant.

For the great majority of operations the reader prefers the through and through suture, reserving the layer suture in this combination for conditions which require an approximation that cannot give way before the tissues have had time to become firmly and permanently healed.

—Pavlowkaja (*Rev. de la Tuberculose*, October, 1899) chronicles the inauguration of the first suburban sanatorium opened in Russia for poor phthisical patients. It is at Tsitzi, and is the result of three years of agitation by a medical society at St. Petersburg. It is built upon land given by the Emperor, who also contributed half a million roubles toward its establishment. The success of the institution is shown by the fact that fifty per cent. of the patients treated during the first year were markedly improved; twenty per cent. were slightly improved, while sixteen per cent. and fourteen per cent., respectively, were unimproved or died.

—A new terror of courtship has been developed in the case of an Indiana brunette. For some days she had been suffering from a supposed attack of pleurisy, but when Dr. S. F. Bordman was called in he found that one of the young lady's ribs was fractured. After much questioning the girl blushing admitted that her best beau had inflicted the injury while giving her his usual tender embrace before parting on his last visit. The occurrence of the accident was marked by a sharp pain in the side, a "catch in her breath," and a sudden relaxation of her hold.

—At Glasgow University, Prof. John Gray, of Bangor College, Wales, has succeeded Lord Kelvin in the Chair of Natural Philosophy. In the recent rectorial election Lord Kelvin was defeated by Lord Rosebery.

*An abstract of a paper read at the Am. Surg. Association, May, 1900.

The Medical Times

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The true strength of every human soul is to be dependent on as many nobler as it can discern, and to be depended upon by as many inferior as it can reach.

RUSKIN.

MEDICAL DIRECTOR GENERAL.

AT the June meeting of the American Institute of Homœopathy last year at Atlantic City, Ex-Surgeon-General M. O. Terry, of this State, introduced a resolution, which received unanimous approval, "That the condition of the country and its standing among the progressive nations of the world demands for the medical department a position in the Cabinet equal in all respects to the other departments of the government." All the other National Medical Societies, in different words perhaps, have advanced the same idea and urged its adoption.

The name suggested by Gen. Terry for this new member of the Cabinet was "*Medical Director General*," to be appointed by the President, with powers clearly defined, as in other Cabinet positions. The duties of this office would in no way conflict with those of the Surgeon General of the Army or Navy.

In our editorial in the May issue of this journal, "*Death in the Pot*," we referred to facts respecting the adulteration of food brought out, at a recent date, by the war investigating committee in reference to the supply of food served to our soldiers in the recent war with Spain, and quoted also from the "Pennsylvania Food and Dairy Commission," and the annual report of the "Connecticut Experimental Station," all of which showed a wholesale adulteration of food in a large variety of products in daily use, all of them cheapening the commodity and many positively harmful to health. To remedy this wholesale poisoning from adulterated food we suggested that a national food committee be organized, with the power of examining manufactured products and testifying as to their quality, these products of food and drink to have on printed labels their qualitative formulas.

A "Medical Director General," appointed by the President as a member of his Cabinet, would, in con-

nection with other duties, organize a system of inspection and analysis, with the necessary machinery to carry it into effect, with much more positive results than could be obtained by a national food commission. An important field of labor in the new government department would be the qualitative analysis of all preparations submitted for sale to the public to see if the statement made by the manufacturers be a true one. A seal could be furnished to the owner of such remedy to be used by him on each package, so that the physician may feel safe in using it. All remedies bearing a trade-mark word, or combination of words, and failing to state its qualitative analysis might be considered as injurious to public safety, and be prohibited. If the fees were large enough to cover all the expenses of the different bureaus and to publish annually a registration book giving the addresses of the manufacturers of the products examined and approved, and distributed free to all persons who have submitted their products to examination, a vast amount of valuable information would be distributed greatly satisfactory to the working of the law.

Another very important field of labor of the new government department would be the power of calling for an analysis of any remedy recognized by the formula of the National Dispensatory, or to require the dispenser to take oath that it is of uniform strength; as, for instance, the dispensatory requires that opium shall contain a certain amount of morphine, aconite, a definite proportion of aconitine and nux vom., its due proportion of strychnine, and that the real strength of powder, fluid extract or tincture be either standard or distinctly marked. In other words, there shall be no deceit, and the physician will know that he will get precisely what he orders in strength and quality.

It is true the medicine may fail to produce the desired effect, but if the physician is positive as to its strength and quality, it gives him an opportunity to revise his prescription.

In constructing the machinery of his department the "Medical Director" would naturally make up a commission of thoroughly scientific men eminent in chemistry and pharmacy, as the head of the central laboratory, who would naturally have the power of appointing their subordinates in the different States.

We have only made a few suggestions as to some of the work which would naturally fall to a department such as we have indicated, and which when thoroughly organized would make its influence felt for good in every department of labor, and in all the domains of science. Resolutions of societies will produce but little effect in bringing about the organization of a new department of our government to care for the national health, but if the matter was brought directly to the individual notice of every member of our profession we are confident it would meet the approval of ninety-nine one hundredths of them. This could be easily accomplished if county and State societies would circulate pe-

titions among the medical profession simply asking for the appointment of a new member of the Cabinet caring for the health of the nation, to whom might be given the name of "Medical Director General," or any other name deemed more appropriate. Give us the department, and the work, under the able counsel which would prevail, would naturally fall into line, and the great work to be accomplished in all its varieties would arrange itself, each division in its appropriate place.

IN HONOR OF DR. JACOBI

THE seventieth anniversary of the birth of Dr. Abraham Jacobi was celebrated at Delmonico's, May 5, at a banquet which was attended by nearly five hundred of his friends.

Many men prominent in the professional and social circle in which Dr. Jacobi moves made addresses suited to the occasion, and the beneficiary responded in a long and interesting address.

Dr. Jacobi has reason to feel flattered at the warm and cordial reception which he received on this occasion.

SIMPLE METHOD OF DISTINGUISHING DIABETIC BLOOD.

DIABETIC blood is much more powerful than non-diabetic blood in removing the blue color from a solution of methyl blue. The reaction is so sensitive that the difference can be detected by the examination of a drop of blood obtained by pricking the finger. When *certain proportions* of blood and a warm alkaline solution of methyl blue are mixed together, the blue color is removed in the case of diabetic blood, but remains when non-diabetic blood is used. The following is the exact method employed, as given by R. J. Williamson in the *Medical Press and Circular*:

"Into a narrow test-tube are placed forty cubic millimeters of water (the capillary tube of a Gower's Hemoglobinometer, which is marked for twenty cubic millimeters, may be used for measuring the fluid); twenty cubic millimeters of blood are added, and then one cubic centimeter of 1-6,000 watery solution of methyl blue, and afterwards forty cubic millimeters of liquor potassæ. The tube is then placed in a capsule or vessel containing water, which is kept boiling. At the end of four minutes the blue color disappears and the fluid becomes yellow if diabetic blood has been used, but in the case of non-diabetic blood the blue color remains.

"In over thirty examinations of diabetic blood (from five cases of diabetes mellitus) the methyl-blue solution was always decolorized, whilst normal blood and the blood from one hundred patients suffering from the most varied disease never decolorized methyl blue when mixed in the above proportions. Hence, by this simple method a drop of blood from a well-marked case of diabetes mellitus may be readily distinguished from non-diabetic blood."

THE TOAD AS AN INTERMEDIARY HOST OF THE TYPHOID BACILLUS.

G. LAW makes a suggestion in the *Medical Standard* for October, which the *London Practitioner* says is "ingenious," and "worthy of scientific investigation." He points out that toads and frogs spend the summer months ingesting flies and other insects. Flies, of course, swarm and breed around fecal matter. During the winter the toad hibernates, to reappear in the late spring. In view of these facts, Dr. Law suggests that "a study of the intestinal contents of the common toad when he first comes out of hibernation in the early summer might reveal important facts in the life history of the Eberth bacillus." The author quotes a curious case, in which, in June, 1899, there was an outbreak of typhoid in an outstanding farmhouse, there having been no cases of typhoid fever in the neighborhood, either city or country, since the preceding November. Three members, ranging from five to twenty years, were first attacked simultaneously, and subsequently two others were attacked. There seemed to be no explainable source for the first cases. In August, however, a few days after the last case began, "portions of the skin and muscle of a toad were drawn from the tap at the kitchen sink." On these premises the author builds the following ingenious theory: In the preceding October many casualties were employed on the farm. One of these may have had ambulant typhoid and used the outdoor privy. From fecal matter to fly, and fly to toad, passed the bacillus, remaining dormant until hibernation was over, when one or more toads found their way into the well and thus started the outbreak.

BEWARE OF FILTHY LUCRE.

A PAPER by Dr. A. J. C. Skene, in the March number of the *N. Y. Lancet*, concludes with an impressive warning against the dangers of handling filthy lucre while doing office practice. "Medical men," says the writer, "need all the money that they get, and they are obliged to accept fees whenever they are offered to them. No matter how filthy the lucre may be, the doctor is obliged to take it in hand whenever he has the opportunity. In office practice especially it is dangerous to handle cash that is saturated with the germs of disease, and much of the current money is. The doctor himself might be willing to run the risk of infection, knowing, as most medical men do, that they must have money to live; but they must also know that they expose their patients when they take a dirty fee from one and immediately proceed to treat another surgical case.

"I first had this subject called to my attention in a very forcible way during my earliest days in practice. A young man of the world came to me for treatment, and after removing certain very much soiled dressings he presented for inspection all the pathological condi-

tions that Venus could bestow on one subject. After applying a clean dressing—by the patient himself, and without washing his hands—he, by careful manipulation, counted out the filthy dollar bills of my fee. By good luck he placed the money upon a piece of paper on the table, from which it was removed and placed in a disinfectant solution before putting it again into circulation.

"This experience led me to realize that much of all money received from office patients was liable to be unclean and unfit to be handled. From that time I have held all money guilty of being septic until proved innocent. I tried washing my hands after receiving money and making change, but found that that required too much time. Now I pick up my fees with a forceps, drop them in a money-box, and at the close of the day put the receipts in a sterilizer and disinfect them at the time I have my instruments made clean. This may appear to be overparticularity, but eternal vigilance is the price of cleanliness in surgery."

TREATMENT OF CANCER.

DR. A. R. ROBINSON, in an article entitled, "Observations on the Treatment of Cancer" (*Med. Record*, March 31, 1900), makes the following conclusions:

1. At present we know of no drug, animal extract, serum, or toxin, which, given internally by any avenue of the body, can be relied upon for the cure of cancer of any part of the system.
2. That the statement that the knife is the only reliable agent in the treatment of cancer is not correct.
3. That certain caustics judiciously chosen and properly applied may attack deposits of the growth inaccessible to the knife, and in these cases should be employed even if the knife is necessary to prepare the way for their use.
4. That in some cases both the knife and caustics should be used, and in some other cases curettage, followed by a caustic, is the proper procedure.
5. That the majority of cases of cutaneous cancer can be removed with the greatest certainty and with least deformity by caustics, provided the patients are seen before the lymphatic glands are invaded.
6. That the knife should be used when the lymphatic glands are invaded, and also in some other cases of external cancer.

RUMORS AFLOAT.

THERE are rumors afloat of the existence of combinations to control the action of the American Medical Association, in respect to certain trade interests at its forthcoming meeting. We trust that there may be enough level heads present to prevent any action which will prove derogatory to the profession, which should be the first consideration, and justice to all interests the second.

ALCOHOLIC DECREASE.

IT is a pleasure to note that the consumption of alcoholic beverages in this country is on the decrease, the statistics showing that not over half as much is used in this way as was required sixty years ago. This is certainly encouraging, and especially is the fact that the number who are total abstainers is steadily increasing. In club life, in public places, and at public dinners, there is no doubt that the use of this class of stimulants has largely decreased, and it is evidence that men are coming to their senses in respect to this evil, and the medical profession can claim the bulk of the credit, rather than the "temperance reformers," who attempt to accomplish it on sentimental grounds.

The physician who can give physiological reasons for urging his patient to abstain from social tipping, can accomplish more than any other in staying the horrible habit. The writer has reformed many habitual imbibers by demonstrating when alcohol may be taken to advantage, and when it should be abjured.

Much more can be accomplished by the discussion of this subject from a scientific standpoint than from a sentimental. The presence of alcohol in this world is too universal to be condemned as an agent that should not exist. It will continue to be, so long as fermentation goes on, and that means as long as the world lasts.

When a man is once convinced that his taking of alcohol should depend upon physiological reasons, which do not require a physician to point out, and that he can ascertain this knowledge for himself, by simply feeling his own pulse, then is he more likely to reform himself in a manner to be permanent and durable, for when men can be induced to use their reasoning powers, then will they more likely become masters of their will-powers, a function absolutely necessary in any reform which is to continue.

The statistics upon which we base our statements are furnished by an editorial writer in the *Philadelphia Press*, who seems to have studied the subject for his purpose from an unbiased standpoint.

In 1884 the highest point of annual consumption reached during a period of prosperity was 1.48 gallons per person. After the panic a decrease followed to 1.21 gallons per capita in 1887. Consumption increased again to 1.51 in 1892. It fell under President Cleveland's administration and reached the lowest level on record of a yearly consumption of spirits in 1896 of only 1 gallon per capita. From this point it increased, and in 1899 it was 1.15 gallons per person, or barely three-fourths the yearly per capita consumption in 1892.

This decrease in the consumption of alcoholic liquors has been in progress for two generations and the average annual amount of spirits consumed per capita in this country is now only two-fifths of what it was sixty years ago, according to the census of 1840, when the per capita consumption was 2.52 gallons. In 1860 it was

still higher, or 2.86, so that from 1860 to 1897 the per capita consumption had fallen almost one-third.

It is remarkable also that the consumption of wine varies in much the same way. It rose a little over one-half a gallon per head in 1880, .56 of a gallon; decreased steadily through the depression of 1885; rose again in 1888 to .61 of a gallon, and then continued to decrease, reaching its lowest point in 1896, when it was only .26 of a gallon per person. From this point it has increased, and in 1899 was .35 of a gallon. The consumption of wine does not follow as closely the general condition of prosperity as the consumption of spirits, but it bears a close relation to the general state of trade.

Malt liquors, on the other hand, have increased steadily in annual consumption with great regularity and through all years. In 1875, a quarter of a century ago, the yearly average per capita consumption in this country was 6.71 gallons. An increase has gone on with great steadiness in good years and bad alike, until in 1892-93 the consumption reached the highest point which it has ever had—16.08 gallons. Then for the first time since malt liquors were introduced in this country by the German emigration in 1848 there began a slight decrease in the per capita consumption of beer. It has fallen slightly year by year, rising in 1898 as compared with 1897, but falling again in 1899, when it was 14.94 gallons per capita. The additional tax levied for war purposes of \$1.00 per barrel may have had its effect of decreasing the consumption by slightly increasing the price, but as the price of beer per glass has in general remained the same it is difficult to see how this can have affected retail consumption.

It is thus made evident that this country at least is growing more "sober," notwithstanding the great increase in the production of domestic wines and beers. Even the per capita consumption of beer is on the decrease.

The profession can make itself the most important factor in this much-needed reform, but it must do so upon grounds that will be convincing to the reasoning powers of thinking men, and make its appeal to the intellect rather than to the sentimental sphere of a man's being.

ANÆMIA.

AN interesting fact comes to us from the Board of Health in Porto Rico that one of the most fatal diseases in that island is set down as anæmia, the cause of which was thought to be a malarial infection, until the great fatality of the disease directed the attention of Dr. Bartley K. Ashford, Assistant Surgeon, United States Army, to study the cause of what seemed to be a pernicious anæmia, a name which had been given to it in the records of the island. Two thousand persons had died from this disease during the months of October and November. A careful bacteriological investigation revealed the fact that the anæmia was in reality ankylostomiasis, so closely resembling per-

nicious anæmia as heretofore to be confounded with that disease. In twenty cases which came under the care of Dr. Ashford in the Ponce Provincial Hospital he discovered in the intestines of nineteen ankylostoma duodenalis, a nematode or thread-like worm, in great abundance. Thanks to bacteriology a diagnosis was made, which may give a clue to the complete eradication of this most fatal disease of Porto Rico.

SOUTHERN NATIONAL PARK.

WE are very glad to see an active movement is on foot, with every prospect of success, to establish a national park, by grant of a large area of government lands, similar to the Yellowstone Park, in the Southern Appalachian Mountains in Western North Carolina. This section of country is one of the finest health resorts in the country. It is magnificently timbered, and comprises a great variety of scenery, in which the grandly sublime is brought in strong contrast with the beauty of the most charming landscapes. An important official in the United States Agricultural Department says of this location, "Every sort of North American animal or fish would thrive here, and almost every tree or plant within our borders from the Atlantic to the Pacific would grow uncared for. Here is a region where winter lingers not; the mountains swell with life at the breath of early spring and clothe themselves in garments of emerald leaf and many-tinted flowers; summer sunshine wraps the earth in lustrous woodland, changing to royal robes of autumn splendors of purple and crimson and cloth of gold; transparent waters of creeks and rivers glide and dance and foam over their rocky beds; above them as an arch the arms of the giant forests, on their banks the honeysuckle, the violet, the tiger-lily, the ivy and the laurel breathe perfumes as sweet as the odors of the lilies of eternal peace." The medical profession most heartily indorse the idea of a national park in this locality. Its glorious climate and magnificent scenery will bring back the vital force and the mental poise which drugs will fail to reach. As a sanitary resort it can be easily reached from all our Eastern homes, and will probably be as highly beneficial in most cases as the higher altitudes of the Rocky Mountains.

THE bill authorizing a city hospital outside the limits of the city for consumptives, carries with it no State appropriation for erection or support. If the city wants the hospital it must contribute all the means for its erection and support. The patients received into the hospital would not be likely to include those in the first stage of the disease, but only after the disease has reached the infectious stage, when the tuberculous bacilli have commenced their deadly work. A removal of this class from our public hospitals would be of great benefit to those remaining.

THIOCOL IN PULMONARY PHTHISIS.

THIS preparation, which is the orthoguaicol sulphurate of potassium, is taking the place of creosote, guaiacol and its compounds in the treatment of phthisis, it being not only free from taste and odor, which in some of the other preparations of tar and creosote are so disagreeable and repugnant to the stomach, but 70 per cent. is absorbed as against 7 per cent. of guaiacol and its preparations without giving rise to any unpleasant symptoms. Experiments by different physicians show that thiocol given in from ten to twenty grains three times a day, in powder or capsule, relieves the fever, anorexia, emaciation and night sweats quicker than any other drug they have hitherto used for the purpose. Prof. L. Maramaldi says that in the early stages of phthisis the drug has acted as a curative, and he has seen more or less improvement even in advanced cases with purulent expectoration and well-marked cavities in the lungs. In intestinal fermentation and typhoid fever the antiseptic action of the drug is well marked and produces highly beneficial results. Thiocol in combination with syrup aurant. is known in pharmacy as sirolin, of which Dr. Fraser says I am convinced that these remedies either separately or together have an invariably favorable influence upon the physical condition of the patient, and thus effect a rapid and continuous increase in body weight without causing any by-effects either in large doses or in continued administration. From the tests to which thiocol has been subjected by careful experiments, it would seem, if these experiments are confirmed by more general use, we have in it a very excellent substitute for many of the drugs heretofore used which have sometimes interfered with the stomach and the process of assimilation, so essential in tuberculous conditions.

CHLOROFORM.

A WRITER in the *Therapist* says, "more time and energy had been utilized in advocating the use of purer chloroform than inventing new apparatus for administering the impure product less would be heard of the danger of chloroform as a general anesthetic. The writer calls attention to Schering's Chloral Chloroform as being absolutely pure and comparatively free from danger. The chloral hydrate of the British Pharmacopœia dissolves bright and clear in water and has moreover the characteristic that when boiled in sulphuric acid it remains undecomposed while all other chlorinated subjects could be decomposed. We have in this an initial product of unique chemical purity, which when treated with lime water must also supply an absolutely purer and far preferable chloroform. It is different, says *Therapist* in the case of chloroform generally used. In the manufacture of chloroform from the chloride of lime and alcohol it is impossible to avoid the chlorination of the impurities present in the raw materials, and these foreign chlorine combinations are

extremely difficult to remove. The shaking up of such impure chloroform with sulphuric acid is not sufficient to remove these foreign chlorinated products; they are only destroyed by heating with sulphuric acid, but this, however, equally affects the chloroform, which thus treated reacts acid even after the most careful washing and has the peculiar odor of the dangerous phosgen gas. Chloral chloroform evaporates rapidly though constantly, and without trace of odor or oily residue. Covered with sulphuric acid, it will remain for hours without showing at the zone of contact the least discoloration, and shaken up with water, the latter will not react acid, nor will it opalize with nitrate of silver solution. It can be kept for several years, especially if lodged in a clean glass and mixed with $\frac{1}{2}$ to 1 per cent. of alcohol. Its slightly greater expense should not for a moment stand in its way when it insures much greater safety.

UNIVERSAL ANTHROLOGY.

ONE of the most noticeable and important events in the literary world is the publication, in thirty volumes, now going through the press, of the *Universal Anthrology*. This stupendous work, under the editorial supervision of Dr. Richard Garnet, for fifty years the Keeper of the Printed Books of the British Museum, who has resigned the position he has held for half a century to devote his entire time to this enterprise, and Leon Vallee, the Librarian of the National Library of Paris, and Alvis Brandii, of the German National Library, assisted by Ainsworth R. Spofford, Ex-Librarian of Congress, will present to the public the cream of 6,000,000 books in four of the greatest libraries in the world. An enterprise like this will interest not only the general reader, but the student in every department of literature and science, placing within their reach the gems of thought and scientific research of all the eras of ancient and modern history, presenting a living picture such as could be formed from no other source than these great libraries, the store houses of the world's progress. The chronological and historical arrangement of the *Anthrology* is unique and so divided that one can read the great authors of every age and nation in the order in which they were written, showing the development of literature.

In the first few volumes will be found translated by the best living authorities the great masterpieces from the Egyptian, Persian, Hindu, and Arabic including the immortal poems of the *Vidas* and the richest gems of the most ancient Oriental literature. Next in order comes the period of literary development and artistic refinement known as the Greek period, including the Homeric poems a thousand years before Christ and that sublime prayer of Homer, second only to the Lord's Prayer, "O sovereign Jove, asked or unasked all good bestow, all evil though implored, deny." Following this period comes the Latin with its stores of classic wealth, which have enriched the centuries which fol-

lowed, then the mediæval followed by the revival of culture and learning known as the Renaissance, succeeded by the writers of the seventeenth and eighteenth centuries and the copyrighted works of to-day. For the latter permission has been obtained, and in many cases paid for, of more than sixty publishers, including the best writers of the present day. Many of the translations are now presented for the first time in an English dress.

So great was the expense of the work that no one publishing house ventured to bring it out, and it is published in England, America, France and Germany by the leading publishing houses of these nations, who are bringing it out conjointly, Merrill & Baker being the New York publishers. In this brief notice we feel we are calling the attention of the profession to a story of the world's literary and scientific history, told by the writers of every age, of which they will be glad at least to learn.

AMERICAN CONGRESS OF TUBERCULOSIS.

THE discussion at the February meeting of this congress was devoted to "Tuberculosis and Its Modern Treatment." Expert scientists throughout the United States had been invited to be present, and the proceedings were of more than usual interest. Dr. Denison, of Denver, emphasized the fact that the matured tubercular bacilli are not the sole cause of tuberculosis, as they do not appear until late in the disease, and are therefore its result rather than its cause. It is only during the breaking down of the tuberculous stage, the softening and excavating stage, that the germ element is found. This period requires a different treatment from the first or forming stage, as here we are dealing with results always accompanied by a certain degree of auto-infection, when the best treatment comes from a combination of methods adjusted to individual needs and not by any means always the same. The question is a legitimate and most important one, Would we not reach prevention sooner by considering the germ a result rather than the cause? Consumption is defined "as a degeneration or slow death, due to the vitiation of the blood, generally produced by defective ventilation of the lungs, a prominent and advanced symptom of which is the bacillary germ of tuberculosis. Have perfect pulmonary ventilation, no breathing of impoverished air and tuberculosis will sink into numerical infrequency. Pasteur says, 'It is in the power of man to cause all parasitic diseases to disappear from the world,' but the eradication of the bacillus of tubercle will not come through the superficial legislation that simply seeks to control expectoration or limit infection from animals. No, the education we need, which must be incorporated into our education and lives, looks to physical development, pure air, and proper food as a basis of health.

Prevention of consumption requires legislation and educational provisions along these lines, thereby changing the prevalent degeneration and its heredity which now favor tuberculosis." It is a satisfaction to know the public mind is being strongly aroused upon this subject, and the question of physical training, hygiene and sanitation, not alone in our legislative bodies, but in our private and public schools and colleges, are receiving marked attention. Scientific architecture is working, not alone on the lines of beauty, but in a still greater degree on those of health. Our public buildings and our homes are being more and more constructed on those scientific principles which will secure proper ventilation and sanitation as nearly perfect as the location and surroundings will permit. One important factor in the production of consumption Dr. Denison failed to mention, probably because there were so many other points to consider, and that is the excessive use of alcoholic stimulants and of tobacco. The abuse of these agents we think will be admitted by every thoughtful mind, is one great factor in the development of what is undoubtedly the greatest destroyer of human life in the whole range of diseases, and this must be considered also in the efforts made to check the progress of consumption.

THE injurious effect of excessive use of coffee is nowhere more forcibly illustrated than in a statement of Miss Ward, writing from Brazil, "that the whole country is perpetually in a state of semi-intoxication on coffee—men, women and children alike, and to babies in the arms it is fed with a spoon. It is brought to your bedside the instant you wake in the morning, and just before you are expected to drop off to sleep at night, at meals and between meals. The effect is plainly apparent in trembling hands, twitching eye-lids, mummy-hued skin, and a chronic state of excitability, worse than that produced by whiskey." The toxic action of tea and coffee, and especially tobacco, is so often seen in a large class of cases in this country that the first question asked by the physician in reaching a diagnosis is as to the use of these narcotics.

THE Mutual Accident Association of Commercial Travellers, one of the largest associations of the kind in the country, have elected as general medical examiner Dr. M. O. Terry, of Utica, formerly surgeon general of the State, in the place of Dr. F. F. Laird, formerly of Utica, but recently on account of his health removed to Los Angeles, Cal. We regret to learn that Gen. Terry, on account of a severe injury to his leg, has been for several days confined to the hospital in Utica of which he is chief.

THE annual meeting of the American Institute of Homœopathy at Washington, June 19, will be of special interest from the fact that on that occasion the monument to Samuel Hahnemann will be unveiled with appropriate ceremonies. The monument is exceedingly artistic and suggestive, and in beauty of design will form one of the most attractive monuments in the city. The location in Scott Circle was chosen by a committee of Congress, which also appropriated the requisite amount for the foundation.

The location is but a few squares north of the White House, and one of the most eligible in the city. In the centre of the circle is the equestrian statue of Gen. Winfield Scott. On the west, facing the east, is the statue of Webster, and on the east, looking to the west, will stand the statue of Hahnemann, who, as the waves of partisan bitterness subside, is becoming more and more recognized by leaders of advanced thought as a tower of strength in medical science.

IT has been found that an apparatus for killing animals with chloroform in England would not work in India, because the high temperature prevented the concentration of the chloroform vapor. That this was the case was proved by the fact that by placing ice in the box the animals were readily killed. In some of the German hospitals an iced chloroform is used; which gives much better results in its prompt action, its safety, and the entire absence of any unpleasant after effects than the ordinary chloroform.

H OVELOCH, a celebrated French author, in his "Science of Language," gives us the origin of the word "cadaver," so common to all medical students, in the following manner: It is derived from three words, *ca-io*, *da-ta*, *vermibus*, meaning "a body given to worms."

THE division of fees between specialists and general practitioners, where patients are referred, is said to be carried on to an alarming extent. It is even claimed that there are associations for this purpose! If this statement is true, it shows how sharp the competition has grown to be, and to what an extent the profession has become degraded.

S OUTHERN Italy and Germany are suffering from a frightful epidemic of influenza. The malady has appeared in its most violent phases in Rome, Florence, Pisa and Leghorn, and has spread from city to city with such lightning-like rapidity as to startle every one. In Rome the number of cases at one time was 40,000, or ten per cent. of the entire population. The city hospitals are filled to overflowing, and temporary ones have been established in the more isolated parts of the city. The attacks are in most cases severe, and attendant with an unusual amount of mortality. No direct cause has been assigned for the epidemic.

A NEW and important medical element has been discovered, to be known as radium. Prof. Barker of Philadelphia has shown that on account of the invisible radiance which it emits it will be found of great use in X-ray work. A photograph can be taken by means of this agent in half a minute; it is much cheaper than present methods, and possesses all the qualities of the Rontgen. Radium apparently violates one of the fundamental laws of physics, namely, that of the conservation of energy. It does not derive its photographic power from the sunlight, nor lose it by expenditure. This discovery is another wonder of the century.

OBITUARY.

D R LONDON CARTER GRAY, a distinguished specialist in nervous diseases and the author of a standard work on nervous and mental diseases, died at his home in New York, May 8, after a long illness, aged fifty years. Dr. Gray was one of the founders of the New York Polyclinic, and the first occupant of the chair of medical and nervous diseases in that institution. Dr. Gray was an active member of societies connected with his specialty, and for many years chairman of the executive committee of American Physicians and Surgeons, and was at one time a frequent contributor to periodical literature.

Wintergreen in Chorea.—So much has been written about the connection between chorea and rheumatism, that it is a little surprising (*Med. Review*) that the presumably specific remedies for rheumatism have not been more frequently used in the former disease. In a series of cases in France it has been found that oil of wintergreen is a very efficient remedy for chorea. That it often gave satisfactory results where the ordinary medicaments recommended for the affection failed. From forty-five to seventy-five grains of the drug were given daily, although more than this has been used in certain cases. The remedy has been tried with success in Brazil, according to a recent number of the *Revista Medica de San Paulo*, and it would seem that a new remedy for this affection, which often proves obstinate to treatment, has been found.

A Plan to Diminish the Use of Alcoholics.—Hughes, in the *Medical Mirror* for December, 1899 (*Charlotte Med. Journ.*), suggests a plan to diminish in some measure the drinking of alcoholics.

He is in full accord with Legendre's statement as to the injury inflicted by this agent.

The evil is to be met by substitution and avoidance.

By substitution he means that all places selling alcoholic drinks shall be required by law to sell also non-intoxicating drinks, as tea, coffee, cocoa, chocolate, etc.

He would abolish the bar or saloon as such and substitute in its place the sanitary café or buffet where something to eat and drink besides an alcoholic might be had always at the choice of the drinker.

Another substitutive treatment is timely medication. For the craving give strychnia, bromide of soda or ammonia, and food. The nerve centers are tired and unstable when they crave alcoholic stimulants.

BIBLIOGRAPHICAL.

THE PATHOLOGY AND SURGICAL TREATMENT OF TUMORS. By N. Senn, M.D., Ph.D., LL.D., Professor of Surgery, Rush Medical College, in affiliation with the University of Chicago; Professor of Surgery, Chicago Polyclinic; Attending Surgeon to Presbyterian Hospital; Surgeon-in-Chief, St. Peter's Hospital, Chicago. Second edition, revised. Illustrated by 478 engravings and 12 full-page plates in colors. Philadelphia: W. B. Saunders, 1900. Pp. 718, 8vo. \$5.

This work, upon which the distinguished author has spent so much time and research, has proven itself to be eminently useful to the profession, and, as might be expected, a second edition has been called for. It is the book *par excellence* on this subject. The text in the present edition has been carefully revised and many additions made. A new section has been added on "Sarcoma of the Decidua." Many new and improved illustrations take the place of old ones.

HEMMETER'S DISEASES OF THE STOMACH. Their Special Pathology, Diagnosis, and Treatment, with Sections on Anatomy, Physiology, Chemical and Microscopical Examination of Stomach Contents, Dietetics, Surgery of the Stomach, etc. By John C. Hemmeter, M.D., Professor in the Medical Department of the University of Maryland, Baltimore. With many original illustrations, a number of which are in colors. Second edition, enlarged and revised. Octavo, 898 pages. Price, \$6.00, net, cloth. P. Blakiston's Son & Co., 1012 Walnut street, Philadelphia, Pa.

That a second edition of this classical work should be called for within about a year of the publication of the first is sufficient evidence that the book has met a demand, and has become standard.

The author states in his preface that about two-thirds of the book has been actually reconstructed and a large amount of new material added. Many new illustrations and plates have also been added. The special feature which the author has attempted is to make his work practical and useful to others, and he appears to have accomplished his object. It is certainly exhaustive of the subject, and contains much work which is original. We commend the book to our readers, as one with which they will not be disappointed.

A HAND-BOOK FOR NURSES. By J. K. Watson, M.D., Edin., Late House Surgeon, Essex and Colchester Hospital, etc. American Edition under the supervision of A. A. Stevens, A.M., M.D., Professor of Pathology in the Woman's Medical College of Pennsylvania, etc. Philadelphia: W. B. Saunders, 1900. Pp. 413, 12mo. Price, \$1.50.

The American editor of this little book well says that "the question of scope in a book of this character is always a trying one to solve; there is danger in offering too much or too little, but in this instance the author has exercised such rare discretion in the selection of material that his work is to be commended as not being too profound for the needs of the nurse, nor yet too superficial to be of practical value."

An examination of the text bears out the truth of the above statement.

ESSENTIALS OF DIAGNOSIS. Arranged in the Form of Questions and Answers, Prepared Especially for Students of Medicine. By Solomon Solis-Cohen, M.D., Professor of Clinical Medicine and Therapeutics in the Philadelphia Polyclinic, etc., and Augustus A. Eshner, M.D., Professor of Clinical Medicine in the Philadelphia Polyclinic, etc. Illustrated. Second edition, revised and enlarged. Philadelphia: W. B. Saunders, 1900. Pp. 417; 12mo. Price, \$1.

This book, one of the best of Mr. Saunders's excellent series, has been thoroughly revised and considerably enlarged.

This little volume is not merely compilation, but contains the results of the large personal experience of its authors, and will be found useful not only by the student, but by the general practitioner as well. It contains the essentials of diagnosis and is sufficient for many purposes.

EX-PRESIDENT CLEVELAND ON COLLEGE TRAINING.

Ex-President Cleveland, in the *College Man's Number* of the *Saturday Evening Post*, discusses the oft-asked question: "Does a College Education Pay?" and makes out a strong case in favor of giving a young man the advantages of a university training.

Other contributors to this special double number are: President Patton, of Princeton; President Jordan, of Leland Stanford; President Butler, of Colby; President Angell, of Michigan, and President McClure, of Lake Forest. The fiction features are by Ian Maclaren, Jesse Lynch Williams, Charles M. Flandrau, Stanley Waterloo and W. L. Alden.

Health Culture for May will prove helpful to all who desire physical and mental health and vigor, opening with an article discussing "The Food Value of Flesh Meat," by Dr. W. R. C. Latson, in which it is shown that meat is not an essential article of diet. Dr. James H. Jackson talks of the usefulness of pain as an evidence of wrong conditions. Dr. Charles E. Page offers some sensible suggestions on "Summer Comfort and Health," and another sensible article is "Bicycling and Beauty," by Mary Sargent Hopkins, with some sensible suggestions for riders. Dr. Felix L. Oswald, in his usual and incisive way, suggests that people live on one meal a day, showing that health and strength would not suffer and that we would soon become accustomed to the plan. Under the title of "A Proposed Novelty in Theological Education" James Leonard Corning, Sr., suggests that a knowledge of health and hygiene should be made a part of the clergyman's education. In the department "Hygiene of Childhood," Dr. Reeder continues his articles on "Infant Feeding," and Dr. Latson discusses "Physical Culture of Children." "Dress," by Ella Van Poole, and "Wheat as Food," by Etta Morse Hudders, will both prove profitable reading. The editor considers "Feeding and Consumption," "Dangers of Canned Goods and Food in Cold Storage."

The *University Medical Magazine* has become the official organ of the Department of Medicine of the University of Pennsylvania. With new and increased facilities, the magazine will be equal to the best, and creditable to the institution. If the faculty take such interest as they should, with the vast field they have to draw from, they can make a publication which cannot fail to interest its readers.

A CYCLOPEDIA OF PRACTICAL MEDICINE AND SURGERY. A concise reference book alphabetically arranged of medicine, surgery, obstetrics, materia medica, therapeutics and the various specialties with practical reference to diagnosis and treatment, compiled under the editorial supervision of George M. Gould, M.D., and Walter M. Pyle, M.D., with seventy-five contributors. Philadelphia: P. Blakiston's Son & Co. Price, \$10. 1900.

This large royal octave volume will probably be more frequently consulted than any book in the physician's library from the fact that it is a trustworthy hand-book for easy and rapid reference in physical and clinical diagnosis, general therapeutics, operations, technic, materia medica, toxicology and other subjects concerning which information is constantly needed in undergraduate study and in daily practice. The best thoughts of the best writers in the wide domain of books and periodic literature have been culled to enrich the volume, making it in every respect worthy of the closing of the old and the commencement of a new century. In a work made up of contributions from many different sources there is not infrequently dissenting from teachings elsewhere in the same volume. In this volume this conflict of individual opinion is avoided, whether wisely or not, by all the articles being submitted to and placed under the free control of the editors. By this arrangement the separate contributions from over seventy contributors have been wrought over, supplemented and rendered organically unitary with the rest. The accurate illustrations, where needed to illustrate the subject, add much to the value of the work.

INDIGESTION, ITS CAUSES AND CURE. By John H. Clarke, M.D., from the fifth English edition; 75 cents net. Philadelphia: Boericke & Tafel.

After describing the normal process of digestion the author gives a brief sketch of the various diversions from the normal, and points out how they may be avoided and cured. The treatment of the varieties of indigestion is illustrated by actual cases. In some conditions abstinence from food or the regulation of diet will alone be required, and in other cases the specific medication required is clearly set forth by the treatment of individual cases. The work is eminently suggestive and full of practical thought.

A POCKET TEXT-BOOK OF CHEMISTRY AND PHYSICS. By Walton Martin, M.D., and Wm. H. Rockwell, M.D., College of Physicians and Surgeons, New York. In one 12mo. volume of 366 pages, with 137 illustrations; cloth, \$1.50. Lea Brothers, 1900.

This volume is one of the series of pocket text-books, the eighth of the sixteen intended to cover medical science. In this small volume is condensed almost everything in chemistry and physics necessary to the medical student. Specially full consideration is accorded to those compounds which are of medical interest, either therapeutically or physiologically. The series of books will form a very excellent help to the physician in his daily work.

THE LADIES' HOME JOURNAL TO HAVE THE FINEST PRINTING PLANT IN AMERICA.

Just 17,600 square feet of floor space are set apart for printing presses in the building just erected for *The Ladies' Home Journal*. It is in the rear of the present

publication office, eight stories in height, and within a short time will be occupied by the mechanical departments of the magazine. The constant, rapid growth of the *Journal's* circulation necessitated greatly extended facilities for printing and mailing, and the new structure meets these demands, providing at the same time for future expansion in all departments. Specially designed presses and all the most approved mechanical devices applied to printing are being added to the *Journal's* already extensive equipment. It is the aim to make this plant the finest in America.

THE LIVING AGE.—No more pleasant and instructive companion can be found in the whole range of domestic and foreign magazine literature during the summer vacation than the *Living Age*, which has now reached nearly its three thousandth weekly issue. The magazines of the old world are more than usually full of great thought and choice literature, the cream of which is reproduced in the *Living Age*, which thus weekly brings us in touch with some of the greatest minds of the old world. The issue for May 19 contains an article on Joseph Chamberlain, by Ouida, written with all her force of diction and sharpness of criticism.

The Century Company is about to publish "The Century Library of Music" in twenty volumes, with Paderewski as editor in chief. The first volume will appear in September. The Library will contain richly illustrated articles upon the great composers of the world, written by other composers, and with music which will contain the cream of pianoforte literature, including Paderewski's entire repertoire, each piece newly fingered, phrased and pedal marked according to the latest and highest standards. The Library will increase the reputation of the Century Company for the great beauty as well as literary and scientific value of its publishing department.

CORRESPONDENCE.

SOME POINTS IN PRACTICE.

To the Editors of THE MEDICAL TIMES:

I write this short paper to your excellent monthly journal to let you know how pleased I am with THE TIMES, on account of its practical utility. I like THE TIMES on account of the admirable catholic liberality so prominently displayed in its columns and its everyday practical importance to its readers, as well as to report some results in my own practice.

Recently I have treated several cases of chronic cystitis, two males and one female, which were what I call severe cases, attended with pain in the bladder much of the time, large quantities of pus and thick, ropy mucus, sometimes blood clots in urine and often some high temperature. There were loss of appetite, skin more hot and dry than natural, pain in bladder and much restlessness.

I wish here to remark on the restlessness and loss of muscular energy of these patients, and how badly they complained of the feelings of nervous prostration.

The nervous symptoms were severe in one female patient, besides the bladder trouble she suffered. I found one of her chief complaints was severe nervous symptoms, loss of restfulness and uneasy sensations through the pelvic region. In her sufferings I happened to think of Jamaica dogwood, which I conceived to be a fine uterine tonic and sedative, and its kindly influence in quieting the nervous symptoms, especially in females.

To give her rest and afford reposeful sleep, and quiet the bladder pains and excitements, I gave her fl. ex. cornsilk $\frac{3}{4}$ ss, and Jamaica dogwood $\frac{3}{4}$ iiss to these I added syrup simple q. s. to fill a 4-oz. vial, of which she took a teaspoonful every two hours. I caused her to drink abundance of barley water every day. These draughts of barley water made the urine abundant and diluted it: helped to reduce its acidity. I believe it best to make the urine as bland as possible, so as to avoid the irritating effect of acid urine. Barley water, mucilage of elm and sassafras are well adapted to effect this, besides, they help to make the mucous membrane of the whole urinary tract composed.

I used a local treatment for washing out the bladder, in both sexes, consisting of zinc chloride grs. 2-3, soft warm water one pint; of this I poured into the bladder about 2 to $2\frac{1}{2}$ fl. ozs. at a temperature of 90 or 100 degrees F., and manipulated the body of the patient so as to spread the fluid over the whole surface of the bladder; then, after 2 to 3 minutes, the fluid is withdrawn, fresh fluid added, and the same manipulations are adopted; each washing lasts 2 to 5 minutes, and fresh added; I repeat these additions 3 to 6 times, each of these washings serves to clean the mucous membrane and has a local effect for good on the mucous membrane. The washings are repeated until the water returns clear and free from pus and thick mucus.

Eclectics are fond of an infusion of golden seal root, 1 oz. to the pint of boiling water; others believe the decoction of the root 1-2 oz. to the pint more active as a local application. Some say the fluid extract of the non-alcoholic preparation is equally as good. Golden seal is a wonderfully useful remedy in cystitis. Locally it soothes the irritated mucous membrane. To this infusion I often add chlorid of zinc 1 or 2 grs. to the pint of fluid.

I also like permanganate of potash, 5 to 6 grains to the pint of fluid, which I use as a local application. When the bladder is washed out, a simple contrivance can be made. All the instruments needed are a soft rubber catheter, a small glass funnel and about 4 or 5 feet of rubber tubing. First, slip one end of the rubber tubing over the free end of the catheter, then slip the other end of the tubing over the leg of the funnel, a 2 oz. glass funnel is sufficient. Introduce the catheter into the bladder, using gentle care in doing this; next, raise the funnel about 2 or 3 feet above the pelvis, then pour the fluid into the funnel; be sure to warm the fluid to 100 or 110 degrees. About 2 to $2\frac{1}{2}$ fluid ounces is enough to pour into the bladder each time. Then, raise the hips and turn the body from side to side to spread the fluid over the whole bladder. After 2 or 3 manipulations of the body in this way, draw off the fluid and repeat with a fresh quantity. These repetitions are to be continued until the fluid returns from the bladder free from pus and ropy mucus.

I said that golden seal is one of the very best remedies to use as a local agent to wash out the bladder. Many physicians use chloride of zinc or permanganate potash, either of which not stronger than 8 grs. to the pint of warm water. Or 5 to 10 drops of nitric acid and 5 grs. nitrate of silver to the pint of warm water; or 10 grs. boric acid and 20 grs. of refined borax to a pint of warm water. Sulphate of zinc 10 grs., fl. ex. Bayberry $\frac{3}{4}$ i; warm water one pint, to be used as a local remedy to clean out the bladder.

The most valuable internal remedy in these cases of cystitis is a combination of fl. ex. cornsilk and buchu.

Both these medicaments are decidedly sedative to the bladder, and can be used with confidence internally in these cases. I think female cases of this kind are much benefited by Jamaica dogwood in moderate doses, repeated 3 or 5 times a day. Some painful cases, where the nervous system is severely taxed, I have been well served by bromide of ammonia added to the Jamaica dogwood.

Rhus aromatica and yellow dock act well combined in many cases. Some cases require cinchona bark. Have not found quinine good for them; prefer fl. ex. calisaya bark in doses of 10 to 30 drops, given with non-alcoholic fl. ext. golden seal in 5 to 10 drop doses, several times a day. I think golden seal is a good remedy in some of these cases, and when there are nervous symptoms I place much confidence in Jamaica dogwood, fl. ext. valerian, also lady slipper and other nervine vegetable tonics.

The diet is very important and must be attended to. The animal proteids make too much urea and uric acid, though they are easily digested. Beef in small quantity, if the patient relishes it, but strong beef soup is to be avoided. Good, well made broths containing some animal proteids, but little gelatin. Mutton and fowl are desirable, especially the parts of the breast and back. Fish is not good diet, oysters and clams are. Good, wholesome bread and butter, milk, buttermilk, sour milk. Cornmeal puddings, rice and rice custards, roast chicken and eggs.

Dyspeptic symptoms are prominent disturbances to the peace and enjoyment of such cases. The food should be easy of digestion. Vegetable foods, well and properly cooked, are to be desired. Some proteids are desirable. I have cured three cases of chronic cystitis in women by restricting the diet to vegetables and a small quantity of proteids. I have often known proteid foods in abundance to do much harm, and change to vegetable food and a little proteids to be very serviceable in effecting a cure.

Treat the dyspeptic symptoms very carefully, not using abundance of medicine. Remember, proper diet, avoiding much sugar, grease and a one-sided diet; i. e., regulate the diet with judgment, so as not to contain too much sugar, fat or proteid, but a proper quantity of each. Some cases require more proteids and less fats, others need a proper quantity of carbohydrates and proteids.

Allow the patient plenty of water, but more particularly between meals. Some people drink abundance of water and eat plenty of proteids; this I do not approve. Tea and coffee are to be carefully regulated, and in some cases entirely withheld. Others do well on cocoa and chocolate and substitutes for tea and coffee, of which there are several.

Go to bed early, rise early, be in open air during pleasant weather. Take frequent rubbings of the body, the best way to give the blood a free and easy circulation. I place much confidence in massage over the pelvis and abdomen, which serves to distribute the blood over the body and relieve the pelvic organs of excess of blood, which is often tending to congestion of the bladder, kidney and abdomen. Mild cholagogues do finely in bringing a cure in these cases.

Keep the bowels soluble; avoid purging and too much physicizing medicine.

Some physicians recommend acetate of potash to make the urine alkaline and increase its quality. I seldom use it.

South Atlanta, Ga.

DR. JOS. ADOLPHUS.

ON THE CARE OF ARTIFICIAL TEETH.

To the Editors of THE MEDICAL TIMES:

There is one small duty which physicians owe to their patients, and also often to themselves—which does not seem to have received the attention which it deserves. I refer to the proper care of artificial teeth. The fortunate possessor of a healthy olfactory nerve must have frequently observed the peculiarly offensive breath found only in those who wear a tooth-plate. By a little care and proper management, this trouble may be avoided. It goes without saying that no one can enjoy ideal health while compelled to breathe foul air, whether the cause be extrinsic or intrinsic. There are dentists who advise their patients to never remove the plate from the mouth except long enough to clean the teeth after eating. But most of them I think will say that in the vast majority of cases it is not necessary to wear them during sleep, at which time they should usually be kept in pure water, to which, if desired, a little salt may be added.

It will thus be found practicable to keep the teeth free from a bad odor, and the mucous membrane of the mouth in a healthy condition. After each meal, if convenient, water, at near the boiling point, should be gradually poured upon the teeth and allowed to remain until sufficiently cool to permit the use of a brush. The dark stain which comes upon the teeth and the rubber plate may be removed by a 10 per cent. solution of c. p. nitric acid, or by pumice. After eating meat, care should be used to remove every particle which may have found its way into the interstices.

W. F. M.

Leavenworth, Kan., May 10, 1900.

INFORMATION WANTED.

To the Editors of THE MEDICAL TIMES:

The psychophysiology of anæsthesia is a productive subject greatly in need of adequate investigation and discussion. Both pure science and practical surgery have doubtless much to gain from a deeper-going study of experiences under ether, chloroform, nitrous oxide, etc., than has as yet been made. Scientific literature has frequently contained accounts of isolated individual experiences reported most often because of their strangeness. A very large number of descriptions of the ordinary experiences is what is now desired, and to this end blanks have been prepared on which replies to certain simple questions may be written. All persons, and especially hospital surgeons, officers of medical societies, and instructors in medical schools, are respectfully requested to send to the undersigned for as many of these blanks as they care to distribute among persons who have been under an anæsthetic. These will be gratefully sent, and received when filled out.

GEORGE V. N. DEARBORN.

Physiological Laboratory,
Harvard Medical School,
Boston, Mass.

POSSIBLE SOURCE OF ERROR IN THE FERROCYANIC TEST.

To the Editors of THE MEDICAL TIMES:

In my manual of Urinary Analysis attention is called to the fact that when a medicine-dropper with rubber nipple is used for delivering acetic acid in the ferrocyanic test for albumin in urine a precipitate may be obtained closely resembling precipitated albumin when

the latter is absent. Verification of this statement may easily be made as follows: Make up 2 or 3 fluid ounces of a 50 per cent. solution of acetic acid and drop into it several fragments of a rubber nipple. Let stand over night. The next day fill a percentage-tube to the mark 10 cc. with distilled water, add 2 cc. of the acetic acid, poured off from the rubber fragments and 3 cc. of a ferrocyanid solution of the usual strength (1 to 10). Let stand 10 minutes, then place in a centrifuge, and sediment 3 minutes at a speed of 1,500 revolutions per minute, when a considerable bulk-percentage of sediment may be obtained. If now a fresh solution of 50 per cent. acetic acid is made up, and a medicine dropper is used several weeks for delivery of it, after a time the acetic acid will contain sufficient substance to give bulk-percentages of from 2 to 3 with samples of normal urine. When there really is albumin in the urine, the percentages obtained will be too high by several per cent. owing to the admixture of the precipitate from the rubber with the albumin. It follows that in all cases in which the ferrocyanic test is used, either qualitatively or quantitatively, the acetic acid should not have been previously in contact with rubber. The acetic acid dissolves any zinc oxid present in the rubber, forming an acetate of zinc, which in turn is precipitated by the ferrocyanid. The precipitate differs from albumin in being sedimented with greater difficulty in the centrifugal machine.

CLIFFORD MITCHELL, M. D.

Chicago, May, 1900.

"ALCOHOL AND DISEASE."

G. Sims Woodhead, M.D., of England says, in *Akbari*, edited by W. C. Cain, London, "For the last year or two I have been keeping note of various observations that have been made in regard to the use of alcohol in disease, and am coming to believe more and more firmly that the patient who takes or has taken alcohol has a less chance of recovery than the patient who abstains." N. Y. TIMES, May, 1900.

[The above has been the conclusion, I thought, American doctors had come to a long time ago, although a good many still use it. I concluded that the doctor was considerably behind the times. I do not know which nation is ahead in the line of regular drinking of alcoholics, but think they are about on a par. Twenty-eight years ago we had in our locality an epidemic of pneumonia—more than two hundred cases within 8 or 10 miles of my house. At that time the books taught that alcoholic stimulation must be resorted to, in the decline of the fever, to brace the system. I noted at that time that 27 out of 32 who were regular drinkers died of the disease; the remaining 5 being the most moderate of the drinkers. Also in some fifty cases that came under my observation and treatment, that when whiskey was given, the patient did not seem to be rid of the fever in as good condition, or as soon, as those who did not get it. This set me thinking. Was alcohol the stimulant needed? I knew by personal experience the effect and working of alcohol, being at that time a regular drinker myself of a pint or more of whiskey per day, that is, that when the stimulant effect passed off the depression that followed was greater and reduced me below the point at which I drank the whiskey, and more was required to bring me back to the starting point. With this knowledge I watched my patients and found that the whiskey had to be repeated at shorter intervals or the restlessness and depression were greater. I was two months watching this and making up my

mind and finding out what to do. Result was I commenced with small doses of strychnia and arsenic and watched the effect. This was almost exactly opposite that of the whiskey, as the stimulation seemed more gradual and lasted longer, without the depression. At same time I commenced to give coffee to help the other two, and the drink was kindly taken to by the sick. It is useless to say that since then, through three more epidemics of the same disease, whiskey or even wine has not been used in any form of disease as a stimulant. Here let me say just where alcohol *does* come in as a pure stimulant. In a crisis, or just at the turn of a disease, as when the fever ceases suddenly and severe prostration comes on, and you must have a *quick job done* in double quick time, then alcohol is the thing. But if the dose has to be repeated the third time put nitro-glycerine or strychnia in with it to prevent the deadly depression, or your patient is gone from further medication.

Now as to its effects otherwise, I have carefully noted for 50 years that other diseases go harder with drinkers than with non-drinkers. Measles, for instance, out of 11 cases of drinking adults 6 died and the "get up" of the others was longer in time by double what others of same age took, who were temperate. Also there seemed to be some chronic trouble that stuck to them involving the bladder, kidneys, lungs, bronchia, or the liver in some irregularity.

During a good many great and small epidemics of different kinds, I have watched the cases of my confrères and my own, where they used alcohol in some form, and think the deaths are about 3 to 1 in favor of no alcohol. It looked to me that the disease, whatever it was, was an aggravation of the depression following the stoppage, in quantity, of the habitual stimulant. In one instance, a neighbor of mine, I had to put him on digitalis and strychnia in doses that seemed to me really dangerous. He passed safely through the attack, but went under in the next in care of another doctor. Any one who has been a pretty hard drinker knows very well that the power to resist disease is weakened, and when disease sets in, greater care and extra strengthening treatment is needed to carry them through with safety.

BEN H. BRODNAX, M.D.

Brodnax, La., May, 1900.

WHAT IS SAFE TO PRESCRIBE?

Editors THE MEDICAL TIMES:

"How can I be protected from the unscrupulous manufacturer whose product I am often compelled to use?" is a question that physicians throughout the country are considering at the present time. In diagnosing a disease, we first look for the cause, and by removing this, our patient may get well. There is but one door in which to lay down the physician's burden, and that is his own, for if he has failed to carefully investigate his remedies, his wail is a symptom of reflex action.

"Physician, heal thyself," has gone on unheeded, until now his mail is loaded with flashy Barnumish literature, calling attention to preparations whose value is only attested to by the manufacturer. Is it necessary to attract the physician's attention with a brass band and Indian war whoops? It would seem so, for the manufacturer certainly is not in business for his health, and if he finds that such stuff "goes," he seems always to "rise to the occasion."

How many physicians are there that even remove the wrapper from these preparations? *Not one in ten.* How many ever examine them sufficiently? *Not one in fifty.* How many apply simple qualitative tests to enlighten themselves as to the character of these remedies? *Not one in a hundred.* "The physiological action is stated on the label; what more do I need? Printers' ink never lies." We use the preparation, and if the patient is benefited, we allow our name to be printed on their "yellow" lists. If the patient dies, we blame the medicine, and accept the "next fellow's" statement, that his remedy reaches the spot in *such an attractive manner* that the mere fact that the doctor's name is on the label is enough to convince a South Sea Islander that it is the "Panacea of Panaceas."

Surgery has made gigantic strides during the past twenty-five years, for the reason that the men at the helm have investigated the subject in such a thorough manner that *hearsay* has been relegated to the place it belongs, and *facts* have been triumphant.

On the other hand, medicine has floundered around in the slough of despond until its very mud reeks with the personality of certain manufacturers, whose only commendation is one or two good remedies, and thousands that ought to be cremated. Let us awake from this lethargy, and investigate the remedies that are called to our attention, in such a manner that those that have a title to be called *remedies* shall be made known, and that those that do not shall be buried so deep that they will pass over from our memory.

The medical societies should appoint a committee from its members to act as an advising board, in examining the products of the various manufacturers, and throw out those not coming up to the standard placed on the label, so that those that are all right could receive the sanction of the societies. Then we would have made a start in the right direction that would be of inestimable value to the present generation, and the beginning of a new era in medicine.

R. H. PEPPER, M.D.

DIABETES MELLITUS—DR. HEINRICH STERN'S CORRECTION.

To the Editors of THE MEDICAL TIMES:

In an article on "Recent News on the Etiology and Treatment of Diabetes Mellitus," by G. A. Ellis, M.D., which appeared in the March issue of your esteemed journal, I am quoted as having had good results with the administration of "bromide of gold and sodium," in the preglycosuric stage of the diabetic deterioration.

Permit me to state that my article on "The Prodromic Stage, the Early Recognition and Early Treatment of Diabetes Mellitus," did not appear in the *Medical Record*, as Dr. Ellis erroneously mentions, but in the *New York Medical Journal*, of July 10, 1897.

It was in this article that I said: "Gold has been made use of as a therapeutic agent from time to time in the treatment of diabetes."

"Dr. I. A. Robinson reports two cases of this affection in which the chloride of gold and sodium produced a steady decrease and consequent disappearance of glycosuria."

"Bromide of gold in combination with bromide of arsenic, as in Barclay's solution, which latter is known to the physician as 'arsenauro,' is certainly a powerful metabolic stimulant in the early treatment of diabetes."

Very sincerely yours,

HEINRICH STERN.

New York, March 14, 1900.

56 East 76th St.

A WONDERFUL GANDER.

Dr. Isaac M. Morgan, who died in 1846 in Brecksville, O., had for some years before his death a singular companion who for unselfish devotion was fully the equal of any of the canine friends of man of which there are so many wonderful examples. When Dr. M. was about 65 years of age, he suffered from a stroke of hemiplegia and, altho' recovering sufficiently to enable him to walk, there remained a permanent disability. His wife and most of his children having previously died, he came to live with a son, a farmer, who possessed a flock of geese. Old age is often lonely, and this was especially true in Dr. Morgan's case. His mind, sympathizing with an enfeebled body, dwelt much upon the past, as shown by his remarks, overheard in the mutterings of frequent soliloquy.

About this time the Doctor became the object of sympathetic regard of one of the ganders who, separating himself from the rest of the flock, ever after remained a constant and faithful attendant and companion. The gander would remain at the door-step over night, and when the Doctor appeared in the morning would greet him by the loud and triumphant cries well known to all who are familiar with the habits of geese. Wherever the old doctor went about the neighborhood the gander followed; and when his self elected master sat down by the way-side to rest, the bird sat quietly and contentedly at his feet. The Doctor would often talk to his companion, whereupon, in a seeming ecstasy of delight, the bird would respond. Sometimes the response came in tones so loud and shrill as to bring down upon his devoted head the expletives and even the cane of the old doctor, whose feeble and unsteady aim was incapable of inflicting serious injury.

This gander's devotion continued until his master's death from a second paralytic stroke at the age of seventy. Such strange facts as these have a strong tendency to render credible the beliefs of those religious sects, as well as the dictum of science, that the Great Spirit dwells more or less, according to organization, in all His creatures.

W. F. MORGAN. M. D.

—Professor Landouzy (*Jrnl. A. M. A.*) formally states that the most marked predisposition to tuberculous infection occurs in persons with white, delicate, transparent skin, marbled with veins, freckled usually, the hair on the head or body, or both, auburn or red, iris blue, flesh soft, sweating easily induced, graceful outlines. This type is called Venetian in Europe, but not from any special prevalence of tuberculosis at Venice, which has rather a low death-rate from this disease, but probably on account of Titian's women. All, or very nearly all, of this type are tuberculous—in Paris, at least, he asserts. Next in order come the scrofulo-lymphatic persons who have been tracheotomized or have undergone other traumata, etc., and especially persons who have had small-pox.

SOCIETY NOTES.

ABSTRACT OF THE PROCEEDINGS OF THE MEETING
OF THE AMERICAN SURGICAL ASSOCIATION,
HELD IN WASHINGTON, D. C., MAY 1,
2, AND 3, 1900.*

Gastric Ulcer—Non-Perforating.—Hæmorrhage was the title of a paper read by Dr. William L. Rodman, of Philadelphia. The author dealt with the subject under eight headings—i. e., Morbid Anatomy, Etiology, Age, Symptoms, Hæmorrhage, Physical Signs, Prognosis, and Treatment—more than two-thirds of the paper being devoted to Treatment. Extensive statistics were given under several of the headings, and the treatment of the condition was divided into two parts, Medical and Surgical, the Surgical, in turn, being divided into Gastrotomy and Gastrotomy with Curetting, Cauterizing, etc.

The mortality of the various methods of treating gastric ulcer by different operators was gone into in considerable detail and twelve different operative measures were mentioned in the treatment of gastric hæmorrhage. The results of fifty-five autopsies in non-operative cases were given, seventeen of which occurred in cases of ulceration of the splenic artery.

The literature bearing on gastric ulcer was most carefully gone over and all operative cases to date were included in the summary. Gastro-enterostomy was referred to as being the most generally practiced operation for hæmorrhage, and as likely to remain so for some time on account of the difficulty of locating the bleeding vessel. Excision is, however, the ideal operation in both hæmorrhage, and non-hæmorrhagic cases, and should be practiced unless there are prohibitive adhesions.

The mortality following all published cases is less than that following gastro-enterostomy.

Operations for acute hæmorrhage even advised with limitations, but surgical intervention in chronic hæmorrhages should always be resorted to.

Perforating Ulcer of the Stomach was the subject of a paper read by Dr. J. M. T. Finney, Baltimore, Md., who considered the history, etiology, frequency of occurrence, pathological anatomy, symptomatology, diagnosis, treatment, surgical treatment and prognosis of the condition in the order named. The author gave it as his opinion that the nature and extent of the developments of a peritonitis in these cases depended upon (1) the site of perforation, (2) the number of perforations, (3) the size of the perforation, (4) the character and amount of the gastric contents, and (5) the number and varieties of bacteria that escape from the stomach into the peritoneal cavity at the time of perforation. Referring to the first questions needing attention in the treatment of a general septic peritonitis the writer mentioned as the first for consideration the giving or not of opium; second, the waiting or not until recovery from shock, and, third, what indications existed for an operation. He then described the steps of the operation, as performed by himself, and called attention to the fact that some of the complications which have been noted were intestinal obstruction from kinking, parotitis, phlebitis, subphrenic abscess, pneumonia and empyema. As to prognosis, he gave it as his opinion that seven factors played important parts, as follows:

*Specially reported for this journal.

1. The condition of the stomach, whether empty or full, when the perforation takes place.
2. The interval between last meal and the perforation.
3. The time elapsing between the perforation and the operation.
4. The number and size of perforations.
5. The position of patient at the time of perforation.
6. The perfection of the technique at the operation.
7. The nature of the infectious agent, whether streptococcus pyogenes, or not.

Dr. Frederick Kammerer, of New York, read a paper entitled "Benign Obstruction of Pylorus."

The author first subdivided his paper into congenital and acquired stenosis, giving as the two subdivisions of the former (1) acute, absolute at birth (foetal peritonitis), and (2) congenital hypertrophy of the pylorus. The second, or acquired variety, he divided into five subdivisions: (1) Fibrous stenosis, (2) Occlusion of pylorus by benign tumors, (3) Syphilitic lesions of pylorus, (4) Gallstones obstructing pylorus, (5) Spastic contraction of pylorus (hyperchlorhydria).

He then took up the subject of the surgical treatment of benign obstruction, first dealing with dilatation of the stricture and second operative procedures, of which he mentioned three, (1) Resection of pylorus, (2) Loreta's operation, and (3) Simple division of adhesions about pylorus.

He also went into some detail on the relative merits of pyloroplasty and gastro-enterostomy, compared the two procedures and the immediate results obtained by each as well as the remote results, and gave many points in the technique of each operation. The paper closed with a very extensive bibliography of the literature consulted in its preparation.

Dr. F. S. Watson, of Boston, presented an article on "Hourglass Contraction of the Stomach," considering the conditions under three major headings. He first dwelt upon the different forms of hourglass stomach and the functional and pathological changes associated with them. Secondly, the symptoms and diagnosis were carefully gone into, and, thirdly, the operative treatment was mentioned. Under this heading the indications and contra-indications for the different operations were given, together with the reports of some of the cases operated upon by gastro-anastomosis. The paper was extensively illustrated by drawings showing the condition in its various stages before and after operation.

At the invitation of the Association, Dr. John C. Hemmeter, of Baltimore, read a paper on "The Diagnosis of Cancer of the Stomach." The definition of the term "early diagnosis," age, diagnostic value of the subjective and objective symptoms, significance of blood and hæmatemesis, constipation or diarrhoea, emaciation and cachexia, condition of the gastric functions, secretion of pepsin and chymosin with the method of examining for the same, lactic acid, microscopical examination of the stomach contents, etc., etc., were a few of the headings under which the subject was dealt with. Illustrations were given of the conditions present in the gastric mucosa in the early stages of cancer, the fragment of the mucosa being obtained by curettage.

Dr. Charles S. Fischer, of New York, presented an article on "Observations on the Gastric Functions Before and After Gastroenterostomy," quoting several cases coming under his own observation and giving as his opinion the fact that examinations of the gastric contents shortly before an operation were valueless.

"Stricture of the Oesophagus following Typhoid Fever and relieved by Gastrostomy" was the subject of a paper

presented by Dr. Frederic S. Dennis, of New York. The patient was also present as an example of the remarkable results that can be obtained by this operation.

Dr. John B. Deaver, of Philadelphia, read by title a paper entitled, "Carcinoma of the Rectum," which he considered from several standpoints and under a number of headings. He dealt with the varieties of growth and the relative frequency of the same, compared with like condition in the upper portion of the alimentary canal. The operative treatment was referred to in detail and radical procedure was advocated. The author mentioned his personal modification of Kraske's method and commented on the importance of saving the sphincter muscle. The patient was also present as a living example of the symptoms and prognosis received their share of attention and it was claimed that the latter depended upon the position and extent of the growth and time elapsed from its incipency.

NEPHRECTOMY FOR A LARGE ANEURYSM OF THE RIGHT RENAL ARTERY WITH A RÉSUMÉ OF FORMER REPORTED CASES.

BY DR. W. W. KEEN, OF PHILADELPHIA.

DR. KEEN has been able to collect only twelve other cases of aneurysm of the renal artery. Of these, only three have been operated on; the first by Albert, of Vienna, in 1891, the second by Hahn, of Berlin, in 1893, and the third case is the one just reported. The case in question was that of a woman of 45, who, having had at intervals attacks of pain for four or five years in the region of the gall-bladder and with fever, finally observed that the right side of the abdomen was larger than the left. The tumor had developed in less than five years and without any known cause. It was, apparently, partly cystic, partly solid, painless and fixed. The diagnosis was a partially cystic tumor of the right kidney, probably due to hydronephrosis, but with a possibility of a sarcoma or other neoplasm.

The operation was done February 1st, 1900, through an anterior incision 17 cm. long. The tumor was readily separated from its adhesions to the other viscera, after tearing through the outer leaflet of the meso-colon, in less than thirty minutes. The pedicle was so broad that it had to be secured in seven sections; the arteries being numerous and the veins enormously distended. The nature of the tumor was not recognized even at the time of operation, nor until after its removal. A section of the tumor then showed that the kidney was flattened out on the surface of a large mass measuring 14.5 cm. in diameter and weighing 970 grms. Nearly all of the tumor was made up of a mass of laminated clots, showing that it was a large aneurysm of the renal artery. A branch of the artery was traced directly into the aneurysm.

In only one of all the thirteen cases collected was a correct diagnosis made. The cause was an injury in at least six. A recognized tumor was only present in six. In the other cases the aneurysm was rather of pathological than surgical interest. Pulsation was not present in any of the cases and the author believes that this is due to the fact that the artery is small and the sac large and the impulse of the blood is not sufficient to distend this large sac and so produce pulsation. Hematuria, of course, is only present when the aneurysm either develops in the kidney or bursts into the pelvis. All three of the cases operated upon by nephrectomy terminated in recovery.

RETROSPECTIVE THERAPEUTICS.

BY ALFRED K. HILLS, M.D., FELLOW OF THE ACADEMY OF
MEDICINE OF NEW YORK, ETC.

Treatment of Cystitis.—In the *Medical News* of April 7, 1900, appears a complete and comprehensive article with above title by Dr. Ramon Guiteras, a recognized authority on diseases of the genito-urinary tract. We reprint herewith a portion of this paper, on "Treatment of Cystitis Due to Tuberculosis":

"Numerous remedies have been recommended by different authorities for the treatment of this form of cystitis, and naturally every practitioner who encounters this rebellious trouble grasps at anything that offers the probability of a cure. Guyon at one time advocated the use of intravesical injections of bichloride of mercury, 1 to 10,000, and since then many have been following his advice, but such a solution will rarely cure this disease, while it usually produces an irritation that is almost unbearable.

"Nitrate of silver and permanganate of potassium have the same effect. Boric acid and boro-glycerine irritate less, but do not seem to possess the power to ameliorate the disease. Recently iodoform injections have been advocated, and the procedure would seem to be founded on a logical basis. Three or four ounces of a five-per-cent. solution of iodoform in liquid vaseline are injected into the bladder every two or three days, the patient being instructed to watch the stream when he urinates and stop the flow just as soon as the oil appears. This forms a permanent iodoform dressing of the bladder-wall, and in the hands of some of the French surgeons is said to have met with gratifying results.

"Personally, I have had better results with borolyptol in this class of cases than with any other remedy which I have employed. This seems to have a powerful germicidal effect, while the fact that it does not irritate the bladder renders it pleasant to the patient. It is used in the strength of from 1 in 8 to 1 in 16 in irrigations by the hydrostatic method. After a few irrigations at the office, the patient will be able to use it every night at home. I have one patient now under observation who suffered for a number of years from a most aggravating frequency of urination accompanied by pain, dependent upon a tubercular cystitis. Under this treatment the urine has cleared up, the tubercle bacilli have disappeared and the patient can hold his urine from seven to nine hours at night and from four to six hours during the day.

"Internally, in connection with any local treatment, an anti-spasmodic and an internal antiseptic should be used as a palliative measure; it is wonderful how much relief may be given to the patient by this means, even although pus remain in the urine and the tubercle bacilli still be found. One patient has been coming to me for three months who was entirely relieved of his disagreeable subjective symptoms by a mixture containing 10 minims of the tincture of belladonna, 15 grains of benzoate of soda, and oil of gaultheria up to one drachm, t. i. d., although not until he was put on the borolyptol irrigation did the pus and tubercle bacilli in the urine diminish to any marked degree. The effect of the palliative internal medication is worthy of notice, in view of the fact that he had suffered for fourteen years, and had been under the care of many different physicians without relief, having most probably been overtreated by too much instrumentation and too frequent or too irritating irrigations."

Treatment of Postpartum Hemorrhage.—Currie, in a paper on the treatment of postpartum hemorrhage, summarizes as follows (*Baltimore Med. & Surg. Jour.*; *Phila. Med. Jour.*): (1) A knowledge of the source of hemorrhage is necessary to ensure intelligent action. (2) All rents, when easy of access, should be repaired at once. (3) If the body of the uterus is contracted and bleeding excessive in all cases of hemorrhage following placenta previa, the whole cavity should be tamponed at once. (4) If this is not successful, or if the hemorrhage is constant and not excessive, secure the bleeding vessels and, if possible, repair the injury. (5) If atony exists and hemorrhage is not excessive, use external and bi-manual compression of the uterus, followed, if necessary, by hot water, vinegar or acetic acid. (6) If not successful, or if atony exists with excessive hemorrhage from the outset, tampon at once after using hot water. (7) Give morphia hypodermically to check the hemorrhage, and stimulants, strychnia and auto-infusion to overcome the effects of the hemorrhage. (8) To prevent anæmia use saline solution, preferably by the rectum or hypodermically. Use saline solution by infusion also, if necessary.

Treatment of Ozena by Citric Acid.—Hamm (*Munch Med. Woch.*, No. 15, 1899), treats ozena with citric acid in the following way: The patient uses every morning a nasal douche, and frees as far as possible the nasal fossa from pus and crusts. He then insufflates three times a day into the nostril a powder composed of citric acid and sugar, equal parts. The deodorizing action of the citric acid is so strong that it causes all odor to disappear, even when the powder is insufflated without the previous cleansing from pus and crusts. The odor disappears immediately, and does not reappear after the insufflations have been discontinued for some days. Finally, the secretion is even found diminished. The author has observed a case of cure having lasted for some months. The odor gradually returned, to disappear anew under the influence of the citric acid. This treatment exercises a favorable influence on the general condition, especially in young women with anæmia and failing appetite, symptoms due in most to a psychic depression which this odor produces and thus renders their lives almost intolerable. When the odor is removed, the patients take courage, become more cheerful and eat with a better appetite.

The Injection Treatment of Hemorrhoids.—In the cases of internal hemorrhoids that are thought suited to cure by the injection methods, Dr. Tuttle, of New York (*Jrnl. A. M. A.*), uses the following formula for making his fluid injection:

Acidi Carbolici.....	1½ drs.
Acidi Salicyli.....	½ dr.
Sodii Boratis.....	1 dr.
Glycerini, q. s., ad.....	1 oz.

M. Et Fiat Solutio.

Sig.—Injection for hemorrhoids. Of this fluid 2 to 4 minims are injected into the base of the hemorrhoid. If other injections are needed, they are to be made in from three to five days.

Belladonna in Broncho-Pneumonia.—Belladonna one and two-drop doses of the tincture), given in conjunction with small doses of calomel, is said by Dr. D. A. Hodghead, of San Francisco (*Mass. Med. Jour.*), to give unusually good results in the broncho-pneumonia of children. He holds that if it prove in a small

measure as effective in the hands of others as it has in his, where the mortality has been reduced from sixty and eighty per cent. to less than ten, it will be the means of saving as many lives annually as has the antitoxin treatment in diphtheria.

The effects of belladonna he sums up as follows:

1. In small doses it is mildly narcotic, producing a slightly sedative influence upon the nervous system, and having a tendency to make the child less irritable, and its condition less uncomfortable.

2. It is, in small doses, a heart tonic, raising the arterial tension and increasing the circulation by stimulating the cardiac sympathetic, and in a corresponding manner depressing the pneumogastric, the inhibitory nerve.

3. It is a respiratory stimulant, influencing in some degree the diaphragm, but more especially does it affect the accessory respiratory muscles, although its action in this regard it must be confessed, is not yet fully understood.

4. Belladonna produces a dilatation of the superficial capillaries, and, in a corresponding degree, and in the same manner, relieves the congested lungs. It might be remarked that it produces an increased secretion of urine and of bile.

5. The most important influence, however, which the drug exerts, is to diminish secretion in the bronchial tubes and pulmonary tissues. The water-logged condition of the lungs is overcome or prevented. Its effects in such instances seem almost mechanical, as well as marvellous. The superabundant and dangerous secretions are diminished in quantity, and the threatened asphyxia, which becomes complete when they increase so fast that the child is unable to rid his lungs of them, is averted. The drug has not been found so effectual in the beginning of the disease, when the bronchial mucous membranes are dry and congested.

Salicylate of Soda in the Treatment of Pneumonia

—Dr. William C. Sebring, of Kingston, N. Y., is deeply impressed with the value of salicylate of soda in the treatment of pneumonia. (*Med. Rec.*, April 22, 1899; *Practitioner*.) In 1898 pneumonia was epidemic in his part of the State, and he says he treated seventy-five or seventy-six cases of pneumonia with only one death, and that one of a plethoric woman of seventy years of age who had suffered from attacks of cardiac syncope for a long time previous to her illness, which did not terminate fatally until it had lasted more than twenty days. More than twenty-five of this series of cases were in persons over sixty-five years of age. Four of them were over eighty years old, and one was a man of eighty-four years who was an habitual drunkard. The cases were, almost without exception, severe ones, and some of them were extremely desperate. While Dr. Sebring's cases did so well, in the same localities and with the regular forms of treatment, his medical brethren had many deaths. The only case which Dr. Sebring treated without the use of salicylate of soda died. Since 1895 he has treated twenty-five cases of pneumonia with no deaths, while some of his medical acquaintances who have adopted the same mode of treatment have reported 125 cases with only two deaths, these two being in people of extreme old age—one ninety-eight years, who had been seen but twice; the other eighty-seven years. Dr. Sebring gives eight to ten grains of salicylate of soda every two hours, but he says he has not had the courage of his convictions to treat many cases with salicylate alone, and has employed the other usual agencies exactly as if he were not using the salicylate.

Salicylate of soda, he argues, is a powerful germicide to the pneumococcus. According to Professor Blumer, of the Albany Medical College, a one per cent. solution is fatal to it in five minutes. Salicylate of soda is absorbed unchanged into the blood, and is brought by the blood into direct contact with the germ of the disease. De Becker advocated salicylate acid in pneumonia in a paper in the *Practitioner*, October, 1898. He claimed that, if given early in the disease, it acted as a true abortive.

RETROSPECTIVE DIETETICS.

Butter in Chronic Constipation of Children.—Chronic constipation in otherwise healthy children is not a disease, but an obstruction of the intestines from too much food, Doerfler (*Muench. Med. Woch.*) asserts, in most cases. This condition can be simply and effectively terminated by giving the child fresh butter, a half to a teaspoonful during the first two or three months of life until normal defecation is restored and then this dose every second day. Between the third and fourth month give two or three teaspoonfuls a day, until relieved, and then every second or third day. From five months to a year one to three tablespoonfuls every two or three days. Over this age, give as needed. The butter must be given unchanged; not warmed nor mixed with any substance, as this alters its composition. In an experience of six years every child has taken the butter with relish. It increases the nourishing elements of the food in small compass, and is the nearest approach to milk. A part is readily assimilated and the rest is eliminated, stimulating peristalsis as it passes through the intestines. Pale, pasty children become red-cheeked and hearty, and the benefits of this butter treatment are evident up to the fifth and sixth year.

Diet in Lithemia.—A. B. Conklin, in a paper on this subject (*Milwaukee Med. Jour.*), concludes as follows:

In the management of lithemic cases, which are due to a greater extent to improper food than to any other cause, a proper diet is of paramount importance.

The diet of lithemic resolves itself into (1) the taking of the necessary amount of albuminous and carbonaceous foods to properly nourish the body, and (2) the selection of such albuminous foods as are most easily digested and converted into urea, and leave behind the least amount of uric acid.

If we may accept the late teachings of Haig on diet, the amount of uric acid resulting from the ingestion of a given amount of albuminous food of animal origin is greater than that resulting from a like amount from a vegetable source.

Meat, therefore, is not a suitable food for the lithemic.

Lard and the other animal fats need not be considered in connection with a lithemic diet, for the reason that they are carbonaceous instead of albuminous, and probably have no direct influence upon the elaboration of uric acid.

Another animal food, however, which must not be overlooked, is milk and milk products. A consideration of butter and cream may be omitted, as we have done with lard, and for the same reason. Not so with cheese. It is about one-third albuminous matter, and if used at all should be used very guardedly. It should be taken only in small amounts at any one time, thoroughly masticated and distributed throughout an entire meal of less concentrated foods, like vegetables,

cereals and fruits. In extreme cases it may be positively contra-indicated.

Another form of animal food to be considered is eggs, with a percentage of albumen almost equal to that of lean beef, and showing a digestibility of one and a half hours raw, whipped, and three and a half hours fried or hard boiled.

Except in cases where the uric acid accumulation is already great, raw eggs whipped in milk may be permitted, but fried or hard boiled, never.

Coming now to purely vegetable foods, it may be said that almost without exception they are suited to the lithemic, and may be selected with much variety, ever keeping in mind their percentage of albuminous constituents, and limiting the use of such as are most highly nitrogenous.

Peas, beans and lentils, because they contain the largest percentage of albumen, of all vegetable foods, should be taken, if at all, but sparingly, and in the same manner and with the same circumspection as cheese. All other vegetable foods, including fruits, may be included in the dietary of the lithemic, as a rule.

The vegetable foods which in some cases may have an unpleasant effect, are the pulses and cereals, which tend, like meats, by their acids and acid salts, to keep up the acidity of the urine.

In most cases milk, with whole wheat bread thoroughly baked, rice, oatmeal, barley and rye meal, and fruits, will constitute an ideal diet.

The vegetables and fruits may be selected according to the tastes and digestive powers of the patient, and the percentage of albuminous and carbonaceous constituents.

In addition to the modification of diet we would suggest the systematic use of lithia water or some of the lithia salts. A very eligible, compact and inexpensive form of administering lithia is in the effervescing citrate or in alkalithia.

Concerning a Vegetable-Diet Cure.—Strasser (*D. Med. Zeit.*, 38-5) advises a vegetable diet for well-nourished, nervous and neurasthenic individuals with arteriosclerosis, for the purpose of combating the tendency to plethora. Also in many forms of chlorosis, in scorbutus, among gastro-intestinal affections, in ptosis and motor insufficiency of the stomach, and especially in chronic constipation. Vegetables are of value also in obesity, in gout and diabetes, in chronic cystitis and pyelitis, and in certain skin diseases, psoriasis, eczema, squamosum, and urticaria.

Causation of Cancer.—J. Sawyer (*Lancet*, March 24, 1900) quotes statistics to the effect that mortality from cancer has doubled during the last thirty years in England and Wales. The consumption per capita has also increased, especially in meat foods. The upper middle classes who use meat in moderate quantity and well cooked do not show so great an increase in cancer as the great masses of the people who eat excessively of meat usually none too well cooked. Therefore, he concludes that development of cancer is largely favored by increased use of food, especially of the proteid type.

"The Autocratic Doctor."—The following lines, taken from the *Practitioner*, are by a well-known actor, who has been under the care of Dr. Walther, of Nordrach. They give a vivid picture of the treatment at that place from the patient's point of view:

I.

When you've swallowed Scott's Emulsion by the gallon
or the jug,

When you've finished Iodin in of your back,
Will you kindly drop your sputum in my little china
mug

And send it to a party at Nordrach?
He's an autocratic doctor with a rough and ready
tongue,

But Tubercular Bacilli can't abide him,
And the patient finds him busy wiping something off
his lung

By cramming lots of little things inside him.

Raw meat, cooked meat, meat of a hundred kinds;
Fifty chronics at table, striving to eat their lunch,
Each of them doing his level best to swallow the skins
and rinds.

Pass your plate for your credit's sake and munch,
munch, munch!

II.

There are some who "pouch" in secret, asking no per-
mission to,

For they know they wouldn't get it if they did,
Scraps of cheese, and bits of lobster, lumps of meat they
couldn't chew,

And a rather more than "gamey" piece of kid.
And havin' been so, so casual, they feel sorry when
they're gone

(For the Autocratic Doctor's sure to out 'em).
When their lungs are going dicky with the Winter
coming on

They'll miss the bloke who understood about 'em.

Cooked food, raw food, plenty of milk and rest,
Quarter o' pound of butter—*Schwartzbrod* by the hunch,
Each of 'em tryin' to raise his weight and widen his
girth and chest.

Pass your plate for your credit's sake and munch,
munch, munch!

* * * * *

—A most curious case of will-making under difficulties has just been before the English courts, says the London correspondent of the *Medical News*. An old lady had stroke of paralysis with aphasia, and was advised by her medical attendant, Dr. Edmunds, to make her will. The difficulty at once was how to ascertain her wishes in the matter, as there was also motor agraphia. Dr. Edmunds devised the plan of writing down the names of all her relatives upon one series of cards, and the various items of her extensive property on a second series. Then the game began. Her solicitor played the title of a piece of property and the old lady after looking through her "hand" of relatives, played a name, and the trick was turned and laid aside. From these "instructions" the will was drawn up and read to the testator, who nodded her assent to each item and signed the whole by making her mark. The will, of course, was disputed, but the judge declared the method pursued had been most skillful and perfectly fair, and admitted the will to probate.

—Dr. Charles F. Wilgohs, the oldest physician in Ohio, has lately celebrated his ninety-sixth birthday. He is said to be in good health and to be still in active practice.

MISCELLANY.

—A breath may wreck a reputation, but the curses of a multitude cannot harm character.

—Kiel reports twenty-eight women students at the university, only sixteen unmarried. Five are between 50 and 70 years of age.

—A. C. Frickenhaus (*Monatsh. f. prakt. Dermatol.*) reports the rapid reduction in size of enlarged glands after inunction with lanolin.

—A new building estimated to cost \$400,000, with the site, is to be erected for the French hospital, in this city, \$200,000 being already subscribed.

—F. H. Gardiner, in the *Journal of Medicine and Science*, advocates the use of the hypodermic needle for vaccinating, as a vast improvement over scarification.

—A trained nurse in De Kalb County, Ill., has been sued for slander by a physician, who charges that she declared a patient of his died from an overdose of morphia.

—Sir William MacCormac, president of the Royal College of Surgeons, who has been acting as volunteer surgeon with the British army in South Africa, has sailed for England.

—Examiner in Pharmacy: How is pure silver obtained? Candidate: Mix quicksilver with lime and fuse it and the quick will go over to the lime and form quicklime and pure silver is left behind.

—Papier mache is now used extensively in the manufacture of artificial teeth. The teeth prepared from this substance are equally hard as the porcelain, but less brittle, and are not attacked by the secretions of the mouth.

—Shaving was once among the duties of a surgeon. Even at the beginning of the century which has just expired, some English surgeons were summarily dismissed the Danish naval service for refusing to act as barbers to the crews of their ships.

—The Pasteur Institute, under the direction of Dr. Paul Gibier, is located on Central Park, West, and 97th street. Dr. Gibier reports that of the 1,357 patients treated for hydrophobia during the past ten years there were 9 deaths, a percentage of 0.66.

—Lord George Hamilton, the Secretary of State for India, recently stated in the House of Commons that the area of India affected by famine is 445,000 square miles, having a population of 61,500,000. The number of persons now in receipt of relief is 4,000,000.

—A gift of \$250,000 has been made to the University of Pennsylvania for the establishment of a new laboratory of physics, the donor being a public-spirited Philadelphian who wishes that for the present his name be withheld from the public.

—A bill has recently passed Congress appropriating \$4,000 for the pedestal for a statue of Hahnemann, to be erected in Washington by the homœopathic physicians of the United States, and authorizing the selection of a site for this statue on a public reservation.

—Laborde's method of resuscitation, which has been found especially successful in new-born infants, is the rhythmic traction of the tongue by the fingers covered with cotton or a handkerchief. The traction at the respiratory rate of 18-20 per minute in the adult and a little more rapid in the new-born infant.

—Dr. George W. Gay, Visiting Surgeon to the Boston City Hospital, recommends chloroform in preference to ether in all case liable to be complicated by difficult or suspended respiration, noticing in particular tracheotomy and œsophagotomy; malignant disease of throat and neck, asthma, etc.; stenosis of the larynx, etc.

—M. Osiris, a wealthy Parisian, has presented to the Institute of France a sum representing an annual income of about 33,000 francs for a triennial prize of 100,000 francs for the most remarkable work or discovery of general interest, especially in the domain of medicine and surgery. The prize is open to general competition in all countries.

—Mitchell, quoted in the *Canadian Medical Record* states that he has been very successful with cold water in the treatment of persistent vomiting, when medicine and other external applications had failed to give relief. It is applied to the epigastrium by means of towels wrung out of ice water, which are changed every minute until the vomiting ceases.

—Chavannaz reports (*Gaz. méd. belge*) twenty-three anaesthesias, mostly for long and important operations, in which the chloroform was followed by the inhalation of the contents of a bulb of oxygen such as is used in hospitals. In fourteen there was no vomiting; four vomited once, and none vomited enough to interfere with the ingestion of food.

—Dr. A. L. Smith, in the *Canada Lancet*, says that cancer is frequent and increasing in countries where little or no attention is paid to laceration of the cervix, while it is becoming quite rare in countries where these lacerations are promptly repaired. Ferrett has conclusively proved that cancer of the cervix almost always begins in the cicatricial tissue in the angle of the wound.

—A Pittsburgh physician is said to have invented a process of preserving human bodies by compression with steel rollers and hot presses. A full-grown body can be reduced to a small size, about 12×15 inches. It can be made to assume any shape, and thus form an ornament for the parlor. He has on his center-table the body of a child in the form of a cross. It is entirely odorless and resembles marble.

—Professor Garre (*Mod. Med. Sci.*), after extirpation of the Gasserian ganglion, three years later found the regenerated trunks, which contained normal nerve fibres, endoneurium and perineurion, all free from signs of degeneration. Repeated attacks of neuralgia in spite of resection of the trigeminus, led to this remarkable operation and observation of the ultimate result, thus proving that no surgical procedure is absolutely infallible in the treatment of facial neuralgia.

—The former reports of extraordinarily low mortality and freedom from complications of the wounds made by the Mauser bullets still continue to be confirmed in the most gratifying manner. One man is actually reported to have been shot completely through the head, the ball entering at one temple and going out at another, and yet to be convalescing, and the proportion of the wounded who died within a period of four weeks stood at the very low figure of less than four per cent.

ORIGINAL ARTICLES.

NATIONAL VOLUNTEER EMERGENCY SERVICE MEDICAL CORPS. ITS OBJECTS, SCOPE AND IMPORTANCE.

BY J. ADELPHI GOTTLIEB, M.A., M.D., LL.D., NEW YORK CITY.

PUBLIC health and welfare has become of late years, one of the most important elements of modern civilization. It is a subject in which all mankind has an interest. The suggestions embodied in this essay, for an institution which is to protect the health, life and limb of the public is offered as a contribution to a great cause; and the writer sincerely trusts and hopes that it will have the desired influence, by promoting the welfare and comforts of the community.

Hitherto, the great subject of rendering aid at catastrophes of national importance, or in the field in time of war, belonged almost exclusively to private civic aid societies. We all appreciate the grand and noble work accomplished by the various "Red Cross" societies the world over; and that they have served a valuable auxiliary is an undisputed fact. More, their services were absolutely required and needed, but the sphere of usefulness of such private societies is a matter of the past. True they have been the incentive, but the time has arrived when they must give way to the improved methods of this enlightened century.

By the subjoined citations we are characteristically reminded of the necessity of a thoroughly trained and disciplined corps, with all the advantages of regular drills, routine emergency work and the resulting comradeship and *Esprit de Corps* due to the social intercourse of its members; with a staff corps enrolled from among the foremost men of the nation. From such a body the Government could draw material when in need of same. A quasi training school or "waiting list" as it were.

The following excerpt from an official report, is to the point, and proves the need of such a corps:

"The difficult and delicate questions connected with philanthropic assistance outside the permanent military organizations are regulated thus: 'Representatives of Aid Societies must place at the disposal of the Commandant their staffs of attendants and all supplies brought by them, for distribution to hospitals, etc., and societies have no power to remove or distribute their members or supplies, and no civilian is allowed to visit any hospital except on pass especially granted,' this regulation will be appreciated by officers who are cognizant of the wasteful and often demoralizing prodigality of aid societies, and of incompetent intrusion that, intermingled with valuable aid, embarrasses active military service. Any popular war will find the volunteer army that must prosecute it, flooded from the rear with patriotic gifts and overrun with enthusiastic helpers."

The foregoing needs no comment, as it is a clear statement of conditions existing in the past, and to date the world over. This almost tolerable condition of affairs is further augmented by a recent dangerous and outrageous phase of reckless manner in which these private societies are conducted, and the integrity of the personnel which compose some of them. The misuse of this plausible disguise suggests the greatest care to be observed in endorsing private "Red Cross" movements unless they be under absolute control of partic-

ularly well known and reliable auspices. The recent episode brought to public attention, and on which an editorial in the *New York Medical Journal*, Vol. LXXI, No. 17, for April 28, 1900, comments with deserved severity on the treason to the Geneva Cross of a so-called hospital corps that went from this country to the Transvaal. (The editorial is of such merit as to deserve being quoted in its entirety).

TREACHERY TO THE RED CROSS CAUSE.

"An incident has recently occurred in relation to the South African war which is discreditable beyond expression, if that were all, however, it would not be worth our while to comment on it, but when we add that it seriously jeopardizes the future status of those grandly humane principles which form the keystone of Red Cross work and are one of the greatest glories of the present age, we are giving good reason for the execration in which the perpetrators of this dastardly outrage must ever be held by all right-thinking people. The outrage to which we refer is the action of the so-called 'Chicago Ambulance Corps,' the members of which, leaving these shores under the auspices of the Red Cross, ostensibly as an organization to tend the wounded Boers in the Transvaal, on their arrival at Pretoria almost to a man tore off their Red Cross badges and accepted the arms offered them by the Boers to take part as combatants in the struggle. This action has, it would appear, been followed by other so-called ambulance corps in the Transvaal.

"The whole value of the Red Cross organization depends upon its being always above suspicion of any partisan motives. It is only by implicit and unshaken faith on the part of all who may chance to be belligerents that no hostile use will ever be made by any power of the neutrality, the immunity, and freedom of movement and action accorded to the Red Cross insignia, that these privileges, so essential to carrying out its glorious object, viz., the mitigation of the inevitable suffering of warfare, can continue to exist. The deadliest blow that has ever been struck at the laudable work of the Geneva Convention has been delivered by this so-called Chicago Ambulance Corps. It was cowardly and treacherous, and we sincerely hope that every one who has participated in it will meet the fate in Africa which he richly deserves. The isolated instances of misuse of the Red Cross flags, of firing on ambulances, and of firing from ambulances are trivial in comparison with this in their far reaching import. Such acts must first be clearly proved to have been intentional, which in the vast majority of cases on either side we refuse to believe them to be; and, when, unfortunately, some individual instance is shown to be, not accidental, but due to design, even then we must make allowance for the fact that no commander of a large army can control omnipotently the actions of every individual in it any more than the most civilized community can entirely prevent the commission of crime. All that can be done is to visit an offence with condign punishment of sufficient severity to act as a deterrent to the great multitude.

"But if there be room for suspicion that duly accredited Red Cross emissaries may not be really philanthropists at all, but foes in disguise, and cowardly and treacherous ones at that, then the whole foundation of the beneficent Red Cross institution will have been shaken, and military commanders will find it a matter of wisdom to ward off all such bodies from the theatre of war, lest they should prove wolves in sheep's clothing. Thus all the great benefits of the humane

spirit of the age, essaying to reduce the, in any case, appalling suffering of warfare to a minimum, a spirit never probably displayed to such a great advantage as in the South African war, will be dissipated; and warfare will be conducted as aforetime with the barbaric savagery from which it has in the passing century so largely emerged.

"The band of unscrupulous marauders to whom we have referred, came near, we understand, owing to their swash-buckling behavior and other suspicious circumstances, being stopped at Lorenzo Marques from proceeding further, but the circumstances which finally turned the scale in their favor and secured a letter from Miss Clara Barton testifying to her personal acquaintance with their identity and objects. It is painfully evident that Miss Barton, whose name commands respect everywhere, has been sadly duped in the matter, and we sympathize earnestly with her in the mortification which she is now evidently enduring at the treatment meted out to her by her protégés. We trust that the lesson thus received will prevent any further countenancing of independent and irresponsible bodies for Red Cross work, and that only regularly enrolled Red Cross members of some standing will in the future have their services in any way recognized.

"We think that, all questions of the merits of this or any other war side, any belligerent capturing such treacherous persons would be perfectly justified in not extending to them the privileges of prisoners of war, but dealing summarily with them. Nay, more. Such wholesome action would prove clearly that the neutrality of the Red Cross must and shall be respected, that it may continue unmolested to discharge its glorious functions."

The proceeding argues forcibly for the necessity of a recognized, disciplined strictly medico-military corps whose members are obliged to take an oath of fealty and are amenable to the most stringent military law and discipline.

"Therefore in this onward march of natural events we must look forward to a regularly organized institution in accord with the strides and progress of the twentieth century. The subject which I present to your attention is an attempt to meet this latest and important phase of social economy.

"That a growing attention to the subject of protecting the health of the people is being manifest all over the world, cannot be denied; for to-day, the most learned and distinguished members of the scientific world are engrossed in the problem of preservation of public health; and the people and press, who are rarely slow to comprehend matters which it is to their advantage to know, are beginning to appreciate the necessity for a regularly established volunteer emergency corps and the benefits consequent thereto.

"Every good citizen takes a just pride and deep interest in the safety and prosperity of his country, and his patriotism bears a direct ratio to the degree of attention and protection he is to receive in time of need.

"Within the past few years we have all become painfully cognizant of the numerous local and national disasters, in which, in almost every instance, the hands of both civic and military authorities have been tied for various reasons, such as time required for the course of official sanction, unavailable funds, inability of procuring immediate equipment, inefficient or lack of expert service, etc. I need but mention the yellow fever and smallpox outbreak in various parts of the United States (Marine Hospital Service alone reported 4,286

cases of yellow fever), catastrophes occasioned by the floods, hurricanes, cyclones in various sections of the country; tornado in northern Missouri, etc., in which multitudes were killed, injured or rendered homeless; the West Dunellen, Reading, Hudson River and Santa Fe R. R. accidents; the many conflagrations, and lastly the breaking of a platform during a public function at St. Augustine, Fla., in which two hundred persons were injured, not forgetting the ravages of the Plague in the East, which at this writing reports from Bombay mention 12,323 deaths recorded from the Plague from November 19th, 1899, to February 17th, 1900, a short period of but three months; and over 6,000 from other districts in India. In the Philippine Islands one hundred cases were reported between January 20th and February 15th of this year. It is unnecessary to further summarize the appalling disasters and catastrophes. The safeguards for epidemics must be attentively watched and provision made so as to be able to amply cope with any unforeseen surprises; particularly with this state of activity in our newly acquired channels of infection—the colonial possessions.

"The formation of a completely equipped, trained and drilled volunteer emergency service medical corps is a natural consequence, and is inevitable. Such an institution would at once inspire public confidence, allay and dispel all fear and anxiety from the minds of the people, by being ready to serve the community at a moment's notice. This advanced period demands such an energetic and efficient organization as the following excerpt from the constitution of the National Volunteer Emergency Service Medical Corps will prove:

"Its objects shall be to render medical or other aid and relief to the community in event of pestilence, catastrophe, war, etc., by maintaining an equipped, trained and drilled service corps, to anticipate, prepare and execute sanitary measures which will insure the health and safety of life and limb of the people. To render aid to injured, transport sick and injured to place of succor, to provide food, shelter, clothing or medical relief and medicines to the victims of calamities, as exigencies may require. To encourage the reading and discussion of papers on subjects pertaining to sanitary, medical, medico-military and public health matters; and to place equipments and service at the disposal of civic and military authorities of National or State Government subject to requisition on call.

"There shall be an Advisory Council, whose duty it shall be to act in an advisory capacity on all matters concerning the good and welfare of the organization, guard its interests, and who shall suggest ways and means for improvement or advancement of the objects of the Corps, of which the following shall be ex-officio members: The President of the United States, Vice-President, Secretaries of State, Treasury, War, Navy, Interior, Attorney and Postmaster Generals, the Judges of the Supreme Court of U. S., the General commanding the Army, and Generals commanding the military departments of the U. S., Admirals of the Navy; Surgeon-Generals of the Army, Navy, and Marine Hospital Service; the Governors of the several Commonwealths of the Union; the President and Chief Health officer of each State Board of Health; the President of each duly incorporated and regularly accredited National and State Medical Society. All of whom shall be ex-officio members while holding their respective official position, and such eminent and distinguished persons whose sentiment is in accord with the objects of the corps, and whose wise counsel is beneficial, may be elected by the

Executive Board of Administration, permanent members."*

The preceding details only appertain to the personnel and equipments for actual emergency needs. The sheltering of the corps when in the field is to be conducted upon regular military usage, and provision is therefore not made for sheltering, etc., tentage, etc., in this paper.

The uniform is of "Cadet Gray" cloth, regular brass button blouse, trimmed with green and red, or green and gold, with proper marks for easy and quick identification—this for rank and file.

Commissioned officers wear uniform of fly front coat, trimmed with gold, silver and green.

The uniforms are at once attractive, serviceable and entirely original, thus easily recognized and memorized as to what organization the wearer belongs.

Such a corps organized and equipped on the preceding military system, disciplined and specially trained, would be ready for any and every immediate emergency service, whether casualty, epidemic, riot, war, parade or civic function (*at which casualties generally occur*).

With such an ambulance service detail, company, platoon or battalion permanently established and located in every city and town in the Union ready to render relief whenever and wherever required, and prepared to be called into requisition at a moment's notice, to assist State health boards in the enforcements or execution of sanitary measures, or in the field at the call of civic or military authorities, would inspire the confidence of the people and assure the safety of the community.

Every loyal and public spirited citizen should consider it a privilege to become a contributing member or annual subscriber of such organization, and the public no doubt would do their utmost towards securing such efficient corps. The vast field of usefulness for such complete body is patent, and needs no further comment, the actual necessity of which is so obvious as to hardly need more than mention, to carry conviction to all minds, even such military authorities as are prejudiced against such organization through their unfortunate and harassing experiences with undisciplined and incompetent private aid societies. It is equally logical to assume that public approbation and support would be proportionate to the actual and prospective benefits to be derived from such organization.

Some opposition might be met with as to the acquirement of military titular designations. But all objections to that are overcome by the fact that the designation of military rank and title are based upon the nomenclature in use by various Governments of the world, thus making the system universal, or rather, international. The Corps being an independent military unit for itself, with clearly defined duties and scope of action, *characteristics and original uniforms*, (gray color with green trimmings) rank and file, and sky blue color for commissioned officers, which are easily recognized, and in no way conflicting with the appearance of the established Governmental forces extant, this Corps would in no way interfere with the work and duties of existing regular military bodies or with National or State organizations, but rather, in case of emergency, encourage and co-operate with them.

The clothing, therefore, of its officers with military rank is only for the purpose of giving grade of author-

ity and distinction, which it must be acquiesced, is absolutely essential and necessary to secure obedience, respect of inferiors, and to facilitate the proper discharge of designated duties. The further reasons for conducting the organization on a distinct military system are apparent, as will be seen, for instance, should the Corps be required to take to the field in aid of the civic Government in epidemic, etc., the duties required of the special purely military departments are obvious, as will be appreciated by a brief review:

Adjutant's Dep't.—Keeps the records and archives of the organization, personnel, strength and location of commands; issues orders; attends to the clerical duties of the body.

Judge-Advocate Dep't.—Is the legal adviser of the organization, advises as to quarantine and military law, and is the department to which all questions as to the administration of justice is referred.

Quartermaster's Dep't.—Provides quarters and transportation for the Corps, shelter for the victims of calamity, storage of supplies, equipments, etc.

Commissary Dep't.—Arranges and provides for the feeding of the Corps when in the field; distributes and purchases food for the victims of catastrophes.

Purveyor's Dep't.—Act as the expert purchasing agent of the organization; contracts for supplies, equipments, etc.

Engineer's Dep't.—Advises as to laying out of camp and temporary settlements; erection of shelters, securing and purifying water; prepares topographical diagrams of the country, maps, telegraph and field signals, etc.

Paymaster's Dep't.—Has charge of the funds of the organization, its receipts and disbursements, collections, etc.

Inspector's Dep't.—Reports and examines into condition of commands, proficiency and discipline of personnel, condition of equipments, etc.

From the preceding brief epitome outline recital of the facts, there can be no question as to the efficiency and importance of such an ideal institution; such highly efficient public sanitary organization is a befitting monument to public spirit and progress of the century. Being self-supporting and without entailing either upon National or State Government the expense of maintaining or equipping; being self-supporting from the revenue derived from subscribing members, no better avenue could be found where philanthropic people are more assured that their money is not misdirected, having individual voice in its disposition, which could not be given to a better cause than that of helping mankind in time of greatest need. Guarded by an advisory Council composed of the leaders of the Nation, the best disposition of its funds is assured.

With our vast wealth and tremendous population, public spirit, and our country the first in enterprise, which surpasses in energy and leads the world in manufactures, we should not hesitate in showing other nations our advanced ideas and American spirit for protecting and aiding our fellowmen.

The generosity of the American people has never been appealed to in vain, in aid of a worthy purpose, and I feel that this is a specially favorable moment for the proposed undertaking by properly presenting its design and objects before the people.

The enthusiasm engendered by the recent wars has not altogether subsided, and the many trials and embarrassments encountered are still fresh in the public mind.

Thus the foregoing rational demonstration of this

* Then follows a full description of the "personnel" of the proposed organization, which our space will not allow of publication.—Eds.

seemingly stupendous task is simple enough, indeed, if we call to our assistance the aid of that strong factor and moulder of public education, the ever alert public press, which in this advanced and enlightened century reaches the eye, ear, and heart of every loyal wellwisher of our glorious country.

Thus with the voice of the community in favor of this movement, the press of the land could grasp this opportunity to use its tremendous power and influence to disseminate broadcast the call of this movement in aid of public welfare—a magnificent organization, the admiration of the world, which would stand as a unique and perpetual monument to our American spirit and zeal for ages to come.

MEMBERSHIP.

Field service members pay an enrollment fee of three dollars and the sum of two dollars annually thereafter.

Associate members pay the sum of five dollars annually.

Annual subscribers—any person may become an annual subscriber by contributing one dollar or more annually.

Full information, enrollment blanks, etc., can be obtained by addressing the author of this paper, 304 West 104th street, New York city.

ON THE RESOLVING EFFECTS OF THE MEDICATED GALVANIC CURRENT ON VARIOUS GROWTHS.

BY M. O. TERRY, M. D., UTICA, N. Y.

SINCE views have so greatly changed during the past few years regarding various glandular enlargements, instead of their being considered scrofulous, or something equally obscure, concentrated or hereditary taint of peculiarity, it is now pretty well agreed upon that most of them are tubercular in character.

I am not prepared to state which is the more presumptuous, an attempt to remove the concentrated disease by surgical procedure, by which it can readily be seen, only that manifested can be in any degree eradicated, or whether by other methods such as the giving of remedies, which have a specific action on the glandular system and at the same time are directed towards the cause, with the ulterior motive of removing it. The first has simply to do with what is offensive to the eye and disagreeable to the patient. The latter theoretically appeals more to our humane intent of effectually disposing of the condition for all time in those under treatment.

I shall touch upon neither the one or the other, but confine myself to the catalytic action of drugs by the galvanic current. It is many years since I began my observations in reference to this treatment, which embraces cases of enlargement of the cervical glands, fibroids and subinvolution of the uterus.

It is expected surgeons will be skeptical, but when glands melt away, as it were, under this effective plan, which they will surely do in most instances, if the surgeon or electrician will exercise a fair amount of patience, he will be rewarded by success and will experience no little degree of satisfaction in the non-surgical procedure by which nodular formations are removed without the unsightly cicatrices following other methods.

This is not a clinical report, but rather an article illustrating methods for using a medicated current. In the case of a young woman of 18, of delicate organization, fair skin, dark hair, and of slight build, who came under my care while attending school here from a distant city, I can best impress the reader with what can be

done. There were 28 cervical enlargements located laterally and posteriorly on the neck. She was under my care for three months. Only three small enlargements remained on her return home, much to the surprise of her physician, who was a prominent surgeon. If cases come for treatment when suppuration is in evidence, such condition must be treated in the regular way, but any other enlargements may be at once placed under the solvent medicated galvanic current. In applying the treatment for cervical enlargements the positive pole is placed posteriorly and the negative on either side, or if a long narrow sponge be had it may be placed anteriorly, covering the sides over the enlargements. To a pint of warm water add 30 drops of iodine and 1 ounce of muriate of ammonia, into which place the sponge electrodes. The strength of the current will depend upon the susceptibility of the patient. From 20 to 40 milliamperes, or a comfortable sensation of warmth or burning will be quite sufficiently accurate. The duration of treatment should be from 10 to 15 minutes, and the repetition every five days until marked improvement be observed, then at intervals of 7 or 14 days, continued for months. To the surgeon who desires rapid results this treatment should not be considered for one moment. To him who considers how sensitive is the feminine mind in regard to cosmetic conditions, it will be looked upon as the desideratum above all other methods of cure.

The pathological process from which a large number of women suffer, viz., subinvolution of the uterus, following pregnancy, is one quite within the scope of this method of cure. It includes cases following puerperal fever and those not cured by trachelorrhaphy. Or it may be a morbid process set up about the climacteric period, which is accompanied by persistent irregular or constant hemorrhages. The uterus may be from 4 to 9 inches in length. The medicated current is to be used in the following manner: For hemorrhage the copper electrode is placed in the uterus attached to the positive pole. The negative—a large sized sponge—over the abdomen. The electrode should be covered by a piece of tubing if exposed in the vagina, and the preliminary purification should be as carefully done as regards sterilization as instruments for an operation. Careful attention should be given the hands as well.

The strength of the current may be from 50 milliamperes to 1,000. The patient is quite able to state the strength of current she can endure. It can be increased and diminished during the treatment of 15 minutes. As the positive pole is acid and therefore caustic this is the pole for hemorrhages. If the aim is in the reduction of the uterus the positive pole should be placed on the outside, for by this procedure the remedies are not only propelled through into the uterus, but the resolving effects of the negative pole, together with the remedies, are thus brought about. Again, hemorrhages having ceased in connection an enlarged uterus, it is well to change to poles during the treatment, using the negative in the beginning internally, ending with the positive, thus giving seven and a half minutes for each changed pole.

The treatment should be given at intervals of five days, unless hemorrhages are troublesome, when they can be given for two or three days in succession. Ordinarily the best time for treatment is five days before and the same number of days after menstruation, in order not to interfere with that function. As improvement ensues the intervals may be increased to two and four weeks, continued for one or two years.

Hemorrhages are usually relieved in from 3 to 6 treatments and the reduction in size slowly. It has been my experience to reduce a uterus of 9 inches to 4, and one of 6 to 3½.

I do not pretend to have given any startling information of something new, but have simply given my personal observation extended over many years in a line of work not recognized as much as it should be on account, perhaps, of the trouble incident to keeping batteries in shape and the time necessary for the accomplishment of the slow results obtained.

SHOCK.

BY H. GASSER, M.D., PLATTEVILLE, WIS.

“**S**HOCK is that condition of general vital depression which marks the immediate effect upon the individual as a whole produced by the local wound.” . . . “Its manifestations are through the nervous system, and are exhibited most markedly by depressed action of the circulatory organs—vasomotor paralysis.” . . . “A functional depression of the circulatory system.” . . . “The nervous system is primarily affected in shock and secondarily the circulatory.”

In this brief description taken from “The American Text-Book of Surgery” we have at least the general basis of every more complete study with which we are acquainted. The central idea around which the whole subject has revolved, and of which the “depression of the circulatory system” has given us practically all of the most accurate clinical observations, although all students and writers have recognized the fact that “the nervous system is primarily affected.” The accuracy and validity of which is here most emphatically endorsed.

The question may at once, and not inappropriately, be asked: Then why has practically our only measure of its existence been the secondary effect as displayed in the circulatory system of the blood, when primarily the nervous system is affected?

With our present knowledge of the physiology of the organism the circulation of the blood has been the central thought around which all the living processes revolved; for is not every organ, tissue and cell constantly and continuously dependent upon it? Is not the stability of its functional activity a real, true and accurate measure of the state of vital being in it? Can there be any wonder it has become the central clinical measure of that “general vital depression” we call shock, when it is our evidence of the functional state of our bodies? What is more natural and rational?

This is why in our study of shock we have always been forced to admit that while we know its clinical existence only as a secondary phenomenon, as we have observed it in the circulatory system, its primary manifestation was in the nervous system. And as in it, it was always lost in the obscurity and chaos of doubt, it has ever remained as one of the unsolved problems with which we have been continually confronted, and this because we had only a vague knowledge of the “primary” function of the nervous system.

It has been and still is generally believed that the functional activity of the nervous system is but an orderly and related hecatomb of “impulses” that come into being for a moment and then sink back into inactivity. Indeed, this belief is so general and universal that, outside the writer, I am not acquainted with a single person that does not believe in this established order of thought.

This is why the problem of shock is still buried in the obscurity which this obscure belief has developed, and the existence and continuance of which throughout all this time is to me the most wonderful phenomena it has ever been my pleasure to come in contact with.

That it is not only an incomplete observation, because it always lands us in obscurity and chaos, there can be no doubt, for all our knowledge of nature is bound up into one unity and of which the function of the nervous system must be a related part. But also, notwithstanding the opinions of those who sit high in authority to the contrary, there is nothing more positive and certain in the whole system of creation than the continuous functional activity of the nervous system. It is not only theoretically true, but demonstrably true.

As the theory of the circulation in the nervous system must necessarily be all-comprehensive and fit into every detail of universal knowledge a further elucidation of it in this discussion is not admissible, but those that have not the papers already published must at least have a partial conception, and when it once is fully realized must soon become general, for it is such a simple solvent of the now many complex and perplexing problems, and of which “shock” is but an example, that it cannot lie dormant for long in this active and inquisitive state of our existence.

How does this theory of the circulation in the nervous system explain the phenomena we call “shock”? Before answering let us briefly cast the theory. From every part of the organism, internal and external, the sensory nerves are constantly and continuously appealed to. They carry this sensory energy to the central organ wherein it is adjusted or equilibrated into a general unity of activity of function not only within itself, but the world without. It is a constant ingoing movement, a central elaboration and outgoing movement.

As these sensori stimuli rise ever higher in the organism there is increasing volume and concentration. From every part of the body there is a continuous cry for oxygen and food carried by the sensory nerves to the central organ, and then transmitted to the heart, lungs, stomach and liver by the vagi that stimulate them to increased activity and thus repair the loss. Indeed, to relax their function for a moment would result in immediate death.

Every part of the organism is, every moment of time, awake or asleep, in constant communication with every other part by the circulation in the nervous system, and in as well marked and unqualified a sense as that every part is bathed continuously by the circulation of the blood.

We know this circulating energy in the nervous system produces the muscular tone, regulates the heart and blood vessels, and all the viscera of the body. We know also when operating in nervous areas there is greater shock. If you doubt this cut the vagi of a dog simultaneously and you will be shocked by the shock. There will be such a drainage of nervous energy that the lesson will be so impressed you will not readily forget it, and it will appear to you that the vagi hold a relation to the circulation in the nervous system that the aorta holds to the blood, but of which the former is complex and complicated while the latter, comparatively speaking, is simple.

If this is true it must readily be conceived that any injury like a surgical operation, traumatism, or even the news of the death of a dearly loved one would at once

cause a marked disturbance of its ordinary and orderly activity which may display itself in a variety of forms like convulsions, hysteria, increased general activity, and shock, examples of which we are all familiar with! Indeed, the same injury may cause all these variations in different subjects, and which fact alone points to the view that they all have a fundamental and basic relation that blends all these varying phenomena into a general unity of function which is nothing else but the circulation of the nervous system with its varying forms of development, stability and organization as we know it in its characteristic personal existence and that may produce all these variations in their functional expression from the same general cause.

It is the nervous system alone, with its circulating nervous energy, that has the function of uniting the cells, tissues and organs with one another, and the general expression of which we know as life in its ensemble. As this life is a continuity, a never-ending and ceaseless activity, a metabolism that is swinging between nutrition and denutrition, it is so only because the circulation in the nervous system has been organized to bring about this fact, and hence is as positive and conclusive as the existence of life itself.

With this conception in view let us briefly take two cases for illustration of the subject of shock that we may fasten the idea and possibly get the key to all the other variations with which we are familiar. The first is a young man well nourished with the bloom of health upon his face. He has lived a fast, intellectual life. No one suspects he has been living up to the verge of nervous exhaustion. He is taken with appendicitis, operated on, and through which he passes successfully, it being simple, but is suffering from shock in which he gradually sinks out of existence the following day. The other is a lean, hungry-looking but active country boy that works hard all day and sleeps well every night all night. He, too, has an appendicitis that is fulminating in kind and that at the end of a week is operated upon to save life. There are adhesions and complications. The operation is protracted and exhausting, yet he comes out in good form and makes an uninterrupted recovery.

Why this difference in results? Only this: The latter was a well-organized, living stability, in which his simple and regular habits built up into strong proportions, while the former was constantly floating in the field of intellectual existence wherein the nervous system absorbed all the vital energy of the body in general, and as soon as an exhausting disease set in the strained link was severed and all went out together.

If we once understand the principles of the circulation in the nervous system all these seemingly inexplicable phenomena we so frequently witness appear to us in a wider light and the touchstone for their solution and explanation becomes at once an open book. The veil of mystery and obscurity is drawn aside and the unity of our knowledge has taken such a step in advance that it appears to us as a continuous revelation so full of interest that it becomes a constant inspiration and stimulus to our activities. In the study of shock alone we have at once a new instrument in the form of an idea whereby we can measure it with greater accuracy, for if the stored-up nervous energy is great the shock is proportionately less. We shall be able to bank upon it as we do in the loss of blood a patient can safely endure by the circulation of the blood.

In the past and at present the circulation of the blood has been our prime measure of the state of the body with

its strength and weakness, its health and disease. That it will continue to be so in the future there can be no question, but with the knowledge of the circulation in the nervous system and the intimate relation between them it will become even more important but only of secondary value in the study of the phenomena of life, and the circulation in the nervous system the primary and all-comprehensive, for in our last analysis we will find that it is the nervous system with its circulating energy that binds all the functions of the body into one unity and we call life in general.

This study of shock is here so abstractly presented that it no doubt must appear quite strange to all those that have been accustomed to view the world of phenomena and life in the established habit as it exists today and have been educated in. To the regular readers of THE MEDICAL TIMES that have read and studied the parts of the evidence published therein the last two years must have at least a vague conception of the scope of the idea and its practical utility. The purpose here is only to generally direct the way to a better and clearer study of this interesting problem.

In the suggestions advanced it is not my purpose to add anything new in the field of established experience that is in any way revolutionary to the order of things, for I accept them as not only absolutely accurate, but as a testimonial likewise of the scientific spirit that governed and controlled them and the sole purpose of which was in the search for truth, and which this theory only causes to appear in a little wider range of its organized system and unity.

Such a knowledge it will be freely admitted will be a positive step in advance, for it can only add to the stability, endurance and happiness of life by our ability to more definitely and accurately adjust it to the constructive architecture of the creative forces of the world of phenomena of which our bodily development is a part.

Whatever else may be the ultimate scheme and purpose of our individual existence this at least is true: That the unfolding of the architectural forces of nature as they are revealed to us every moment of time are the prime and controlling phenomena that appear to us always new and full of interest. It is this interest after all that is the great directive and potential stimulus in our conscious life that not only keeps it ever active and occupied, but is bound up and surrounded with such a multiplicity of obscure and unsolved problems that it is always enshrouded by the one great and insoluble mystery that lies beyond our grasp, but the validity of which as such is as well organized in our consciousness as any conscious experience with which we are familiar, for, indeed, they are related parts of the same, for new thoughts only mean increased unity as given in our consciousness of the architectural forces of the world; but what must be here distinctly remembered is, that this organized and conscious unity is not the architectural forces of the world; and while woven from them still it is distinct although interdependent and related. Every increase of our conscious unity is after all only evidence of constructive architecture. It is thus that not only our conscious life which is in itself a purposive, directive and responsible unity, but the very forces of nature, out of which it was woven, also positively and unqualifiedly point to our creative unity.

This, for aught we know, may be the scheme of the creative purpose out of which by a regular process of development has been organized our conscious unity as a miniature and finite child of the All-Conscious

Unity. But if ever this was the real solution the ultimate mystery would be as insoluble as before, for our finite conscious unity could never transcend into the Infinite Unity. We could no more compare them than we can compare our organized conscious unity with the simple reactions of the material forces of the world of phenomena, and yet we are justified in believing that our conscious life holds the same relation to the All-Conscious that it holds to the material architecture, and in both of which it is so involved that we are always stranded in the infinite mystery.

But this very mystery that looms up on both sides of our conscious existence is in itself evidence that we are related parts of the one as well as the other and is hence not only the highest testimonial of the unity of nature in general, but also that our organized conscious life is the connecting link between the architect and the architecture, and thus an organized interpretation of the scheme of creation.

ON THE SUBJECT OF PHTHISIS.*

BY DR. LOUIS BARKAN.

As every man is in a measure the master of his own fate, he is also, to a great extent, the master of his health. And this holds true of tuberculosis. The bacilli of consumption are not in themselves so much to be dreaded as the unhealthy tissue which forms a favorable medium for their inception and development.

In contradiction to this theory Dr. T. Mitchell Prudden, the renowned pathologist, says: "Tuberculosis is caused by ptomaines and the bacilli found in consumption is a result of the disease." In a vigorous, well-nourished body the bacilli are harmless. Innumerable injurious bacilli float around and are absorbed and no harm results. Were it not so the world would soon be depopulated. Pure blood supplied with normal cells fills the healthy body so completely that no space remains for the development of tuberculous bacilli.

The healthy human organism may within certain limits be considered an apparatus for self-disinfection. Innumerable quantities of germs surround, pervade and pass through it without leaving any appreciable trace of their contact. Thus a healthy and well-nourished body is endowed with great powers of resistance to the action of most species of bacilli, rendering itself aseptic by virtue of its own healthfulness. Professor Traube experimented in 1876 by injecting a quantity of pus into healthy dogs. After twenty-four hours he found no trace of it in the system; his results, however, were different when the quantity was increased. Dr. Trudeau inoculated fifteen rabbits with tubercle bacilli; ten of them, which were kept in damp, impure air and on improper food, developed tuberculosis. The other five were permitted to run about in good, pure air and were well nourished. Of these only one died of a resultant tubercular affection, and four remained well. The experiments of Brown-Sequard, which were made before those of Dr. Trudeau, yielded still better results, since of all the animals inoculated with the tubercular virus, not one was lost. He ascribed these results to their being kept in a well-aired open place, supplied with abundant nutriment.

In patients who had only recently developed symptoms of phthisis, Brown-Sequard, Stokes and Blake aborted the disease by the same treatment of saturating the systems with pure air and good food. It must be

apparent, therefore, that the power of self-disinfection depends chiefly upon two factors:

1. Thorough impregnation with the oxygen of the air.

2. Generous alimentation.

These agents must be relied upon to give to the stomach power to digest certain bacilli, as well as to the blood that richness, vitality and vigor which enable it to ward off an invasion of bacterial foes, and by the aid of which they can be most speedily repulsed, and driven from the system, even though they have entered the circulation at a vulnerable spot. In addition to these two important factors, several other hygienic requisites must not be overlooked, such as congenial temperature, sunshine, clean, dry soil, pure water, sufficient exercise, etc., all of which are valuable as accessories to produce the full beneficial effect of pure air and abundant food.

The fatty tissue is not necessarily a protection in itself but must be incorporated into the working economy of the system; otherwise it becomes a clog, retarding circulation. Hence we find consumption even in fleshy people who do not exercise enough to produce the requisite metamorphose of the adipose tissue. In an industrious, active man the healthy ivory-tinted fat (unlike the white of a drunkard) is an important factor in the animal economy, supplying heat and regulating the temperature. In the idle, inert person the superfluous fat is apt to become like the fuel in a stove, so overfilled that draft and combustion become insufficient and the room remains cool. Very fleshy people are known to chill and succumb to cold easily, but this is improved by a life of physical exercise.

Nutriments, like capital, is only of value when well used. In a majority of cases the reproach of eating too much is not justified. One does not eat too much but works too little. Only by a vigorous circulation can each and every tissue of the body be supplied with sufficient blood for the proper nourishment of every cell. A most important consideration, as tuberculosis, is in most cases the result of deficient nutrition, often caused by poor circulation.

It is often noticed that the removal of tuberculous tissue, e. g., from the knee or abdomen results in the cessation of the disease and the cure of the patient. This happy result was really caused by the removal of the tuberculous barriers which impeded circulation. Furthermore, it must be remembered that the amputation of tuberculous carious extremities lessens the amount of tissue to be nourished.

A brisk circulation is therefore a life-giving principle of the organic world, and nothing conduces more to this than healthful physical avocations conducted in pure open air, such as forestry, gardening, farming, seafaring, etc., or those pastimes as rowing, swimming, mountain climbing or gymnastics, also performed in the open air, especially if carried out, as in Europe, under the eye and direction of a physician. Of untold advantage to Europe are the Alpine and Carpathian clubs, which not only give great physical benefits, but add immensely to the pleasure of life by cultivating a perception of the unadulterated beauties of nature. It would be an immense benefit to us if such clubs, as far reaching and comprehensive as those, could be established here. The ascent of a mountain peak is arduous, but the exhilaration and delight one feels on reaching the goal amply compensates.

Both mountain climbing and gymnastics increase the contractive force of the thorax so that inflaming and irritating particles are thrown out, consequently even

*Translated from the German by Amelia Catlin.

convulsive coughing allayed. No one can overestimate the value of well regulated gymnastics, as the freshened blood is hurried to every part of the system; the coldness of the extremities disappears, the deleterious germs are eliminated, and even the upper lobes of the lungs, where the bacilli or tuberculosis first appear, become again sound. I recall patients who, in spite of liberal nourishment and most careful nursing, showed no signs of improvement, but who under gymnastic treatment recovered and are still enjoying good health, although from consumptive families, where brothers and sisters had succumbed to the dread disease.

The human organism, both as regards degeneration and development, is susceptible of modification. Fortunately for tuberculous patients, the chest will be expanded and enlarged by judicious exercise. It is well known that Sandow, by such exercises, developed from the weak, sickly boy into his present condition of exceptional strength. It must not be forgotten that the amount of food taken must correspond to the amount of exercise, for even iron muscles will not exclude tuberculosis. Gymnastics should always be performed in well ventilated rooms. Unfortunately in one or more of the largest institutions in the city this is not the case. Far better, as in some of the public schools, in the open air, and, best of all, in certain woods near the city. We recall with great pleasure the excursions of our student days when, under the guidance of our professors, we went to their very source and studied biology, botany, geology, etc., in the beautiful Carpathian mountains and valleys, and then in the pure atmosphere of the pines and balsams derived the full benefit of gymnastic drill.

Climate, on which so much of both the inception and cure of consumption depends, is influenced principally by mountain ranges. We find those places most favorable where mountains running east and west protect from strong cold winds, so that even high altitudes are not too severe. These are the conditions of so many of the favorite sections in Northern Italy, Hungary, Thibet, Utah, Colorado and New Mexico. To a certain extent this holds true of forests preserving the same protection from winds: by their devastation, dust, drought, frost, wind find easy access and impoverish the climate.

The greatest attention should be given to drainage and the removal of all sewage, for recent investigations have demonstrated that the bacteria of consumption, like those of the malarial diseases, are especially numerous upon and within the ground, and that bad drainage and sewage are important factors in the production of the disease.

In answer to the oft-repeated and agonized question, Can consumption be cured? We answer—Unless very far advanced, most positively yes—and advance the great numbers cured by a sojourn in the salubrious States of our country to substantiate the assertion. Most drugs give only transitory help, if any. The only agents of value are those which develop oxygen and subdue fever.

ON VIBRATORY ENERGY.

BY E. C. GETSINGER, PH. D., DETROIT, MICH.

LITTLE did the Chinese statesmen dream when they constructed the great wall around their empire to obviate against the invasion of the Tartar, that this same wall would be an obstacle in the way of civilization, and that the statesmen of our day or possibly of fifty years hence would order its demolition

at certain periodic distances so that intercourse with civilization will be accelerated. This wall was built when a fixed state of thought existed in the ranks of that government and when it was thought that the Tartar hordes would always be a menace. Little did they dream that civilization would threaten the Empire of China as did the Tartar, and that this same wall would serve as an obstacle in the way of both extremes.

The thought realm of a man is like an empire, each trend of thought is as a citizen, and according to its degree of importance is either noble or plebeian—graded in this realm according to the law of fancy in one individual, and according to the law of utility in another, or a combination of both. In this thought realm each individual has rules of government, and a thought that applies for citizenship must stand the test of these rules and is accordingly accepted or rejected. But the individual whose thought realm has become like an ancient Chinese Empire is the one who has reached a fixed state of thought which acts as a wall around his mental state—where one thinks he repels the invasion of Tartars, when, in fact, he rejects the fruit of civilization.

The history of religion and of science teaches us to beware of a fixed state of thought, but to cultivate a flexible conviction whose radius of expansion is graduated by common sense—the product of civilization.

The great problems of science are not conclusively analyzed in one lifetime, but generations can only pass final judgment. The minor problems can be passed upon after a brief time of trial. The fundamental laws of nature are vast problems and those that were apparently solved and given us a century ago as being facts are now found to be untenable, and were it not for the flexible conviction of the civilized mind this change of opinion would still be impossible.

The finer forces with which science is now dealing forces even the conservative minds beyond the possibility of conservatism, which is only another name for a fixed state of thought. Genius has never knocked at the door of conservatism but what it was branded a Tartar and rejected. But there is a vast difference between a genuine scholar and thinker whose cautiousness is the stamp of his sincerity, and the rigid conservative thinker who appoints himself as a guardian against a Tartar invasion into the realm of science, and who, when approached, merely knits his brow as if it were possible for him to concentrate intensely, then looks as wise as a tree full of owls and finally draws out the fact that "this is not exactly in accordance with the authorities on the subject." But such words were never uttered by Goethe when he found the young harum-scarum Schiller, nor by the practical Liszt when he found the esoteric Wagner, nor by the flexible minded co-workers of Darwin when he dared to lay his views at the feet of conservatism where they were both kicked and pummeled.

The electrical science has revealed some of those finer forces and with such rapidity has one marvel come upon another that the pseudo-guardians of science have fled in dismay. The owls have deserted the tree of knowledge.

Nothing has so much changed the fundamentals of science as did the relation of vibrations to the electrical science. As electricians became more and more familiar with the fluid with which they were dealing, so did these find it necessary to consider the laws and phenomenon of vibrations. And much of these results are due to the peculiar researches of Tesla, who finally dis-

covered the secret of lighting by high alternations, or by vibrating a small volume of electricity at the rate of hundreds of thousands times a second. Electricity sufficient only to ring a telephone or operate a telegraph instrument when lashed into a high degree of agitation becomes the lighting power of an alternating current, and so does water become foam by the same process.

Vibratory energy when not operating under stress or resistance imparts a sensation of cold, but the same rate of vibrations when operating under a stress of resistance manifests as heat, consequently heat is a vibratory energy and only manifests as heat so long as the stress is maintained. A heated molecule is one overburdened with a vibrant energy and this relieved makes a cool molecule. To resolve the phenomena of heat or of cold to merely conditions under which the vibrant energy operates is simplifying the causes of one-half of natural phenomenon with one sweep. It is said that friction causes molecular heat. What is friction but a vibration? Prove it? Certainly! A vibration is a rapid and rhythmic motion. When two bodies that revolve with the same velocity come in contact with each other they smoothly roll upon each other, but when two bodies revolve with different velocities and come in contact with each other, these will only touch each other periodically in about the same way as when you moisten your finger, then run it over the surface of a varnished table; it periodically touches the table. When this rhythmic contact is exceedingly rapid then it is a vibration. Thus when molecules come together under pressure and these revolving at various velocities alternately touch one another, and this at an intensely rapid rate becomes a vibration, this vibrant energy, crowding upon the molecules faster than these can dissipate the same, results in a heated state of matter which will be maintained as long as the pressure or resistance is maintained. In this manner heat is a vibration operating upon matter under stress or resistance. Friction is not a continuous contact between two revolving molecules, but is a rhythmic contact and if the contact alternates at the rate of eighty thousand times a second or more, it is decidedly a vibration. The stupendous mass of the sun, whose molecular particles are all rotating under great stress one against the other, has made the sun a vibrating mass of incandescent matter, the radiations of vibrant waves of energy form heat near the sun and these heat waves when dissipated out into the ether agitate this subtle substance into light; this light vibration becomes mere wave motion through dissipation and which reverberates to the planets whose atmospheres collect the same, and this solar energy when thus re-intensified by atmospheric strata and directed to the surface of the earth becomes the earth's heat and light. Beyond the earth's atmosphere this vibrant energy is merely motion and a state of darkness exists, but when intensified by the atmosphere it becomes heat and light. Again, the source of all light on this planet is probably resolvable to vibrations. The sun is a vibrating body and it is likewise vibrating the vast field of ether in which it is immersed. The stars in absorbing these vibrations by their atmospheres become luminous bodies and these scintillate their vibrant light to us. The whole universe is a vibrant structure and this state of vibration makes the vibratory law one of the dominant laws of the universe. The relation of vibrations to the creation can be carried into the realm of the causes of forms and designs of life—both animate and inanimate.

The moisture on the window pane in the winter time

will assume a beautiful flora, because the glass on the inside of the room is warmer than on the outside, thus the molecules forming the two surfaces conflict in their expansion and contraction which results in the window pane setting up a high rate of vibrations. The path of this vibration is in the form of floral designs. The molecules of moisture follow in the wake of this path of motion, the temperature of the window pane is gradually lowered on the inside to a freezing point, when the moisture freezes and the flowers on the window pane result by the moisture having outlined the path of the vibratory waves or the path of motion, these became fixed by the frost. The different flowers or designs are caused by the different rates of vibrations, the thickness of the glass, the rapidity in the fall of temperature, etc.

Another experiment in sound waves or a study in vibratory physics is made by taking a tin can three inches in diameter and in depth, one end open; place a hole in the lower part of the can about one inch in diameter, take a tin speaking trumpet and place it in this hole when making the experiment. Next take a piece of tambourine head, wet it and stretch it tightly over the open end of the can, tie it firmly and then leave it dry. When dry take fine pumice stone and rub the membrane down to a thin film. To make sound waves visible place a little lycopodium powder upon the film about the size of a quarter, insert the speaking trumpet into the hole and in a loud and steady voice sing a certain tone into the same and the powder will dance into the path of the sound waves. Sing another tone and it will form another design. In this way one is able to make the designs of ferns, daisies, lilies, star-fishes, clams, miniature trees, etc. All of these are sound waves or paths of motion. The form changes with each change of tone. Now suppose that in the early history of the Earth's formative epoch that the exhausted heat waves as they came up through the stratified earth, became reduced in intensity so that by the time they reached the water these became modes of motion whose vibrations equaled those of sound waves, and these playing up through the water in which was held in solution the substances that form gelatinous compounds, these were drawn into the wake of the path of motion, there aggregating this substance which finally encompassed the wave, and thus fixed a physical outline to the dynamic entity—the sound wave—after a long period of constant action, resulting in an undeveloped specie of flora. Thereafter the limes, carbons, phosphorus, etc., are absorbed in the process of evolution and the flora formation hardens until the zoophytes are the result.

This is my theory of the cause of designs and forms in life. Man, as well as all forms of life, are embodied dynamic entities—each specie a path of intensely vibrant energy embodied in matter, and this dynamic entity is perpetuated by a combination of laws governing matter and energy in its combined state so that there is an acceleration of this energy during the life of a being (the assimilation of food is one) rather than a dissipation of the same or the annihilation of the creature. Each specie was so formed in the beginning and as such evolves its potentialities, and does not evolve into a higher manifestation of life—each specie is a distinct form of life and remains such. The cause of sex is explained by me in this way: A sound wave has two manners of pulsation, the one from the center outward, the other from outward to the center. The excentric is masculine, the concentric the feminine wave. The action and recoil occurs in all modes of motion. Dynamic entities pulsated either inverse of excentric, and this, in

the end, resulted in the inversion of the muscular structure and of the sex organs, and the other in the excentric state of the same.

In an article of this kind it is, of course, impossible to attempt more than to give a mere stimulus of thought to the reader, but the philosophy and a cosmology based upon the vibratory laws has been completed, in which science is reconstructed in about ten of its branches and will soon be compiled into book form.

In one hundred octaves or tones, seven in each octave, it is possible to form chords, minor and major, to the number of over one million five hundred thousand (1,500,000), and since each has a distinct path of motion, each path forming the basis of a specie of life, the entire classification of species and their forms can thus be accounted for by the laws of vibrations. Environment was not the dominant cause of forms in life, but the conditions under which the path of dynamic force operated in the beginning, had an influence as to the form of the wave which would be in accordance with the environment in which the wave radiated.

The universe is not a complex mechanical structure when properly understood. The entire present cosmology is too complex to be true, the laws of nature are based upon too complex a hypothesis and lacks harmonious succession.

A natural law is the result of conditions—the natural sequence of developed potencies of matter, the dynamic manifestation of aggregate matter results in a law which becomes operative on the next new condition, and this again results in another law, and so on, until all laws of nature are resolvable to one unitary law, and that is vibration. This will make the structural universe the result of almost infinite paths of motion, where stars outline the waves and encompass the stupendous "sound waves," the same as the molecules which encompass the zoophyte wave in the water. The law of the star is the law of the molecule—one immersed in ether, the other in water—a more dense substance; the one attracted by stupendous waves of dynamic force, the other by infinitesimal volumes. The stars immersed in the ether form constellations in the heavens under the influence of vibratory paths, the molecules immersed in the liquid deep form in flora under the influence of lesser intensities and volumes of the same vibrant energy.

The Creator only created two objects—atoms and souls. He was able to manipulate the potencies of the two by utilizing the laws as they developed, until the mechanical universe was formed, and until the intelligent expression of the Concrete Mind was manifested in the human form.

Some years ago I was inclined to pantheistic atheism, but subsequent discoveries have led me to believe in God as a unity—a Creator Infinite, whose Will, when concentrated for the purpose of spiritual guidance of the human souls upon the earth, or during the early history of man for the physical development of his body, by giving forth from the Almighty Presence a series of sanitary, dietetic and social laws unto man; such an occurrence was a manifestation of God upon the earth, and when this occurred through human agencies, such a person was called a prophet. In this way the concentration of the Will of God gave Him an apparent personality.

The soul of man is an intelligent entity whose faculties are the reflection of the powers of the Concrete Mind, and in this way is the soul limited while its creator is unlimited.

I mention these points so as to prevent the reader's

utilizing any of my views in reinforcing any atheistical tendencies, should there be such.

The soul is a dynamic entity possessing nine attributes or faculties, these when uniting and blending with the dynamic entity known as the power of life, or that wave which caused the form, these two upon combining form an intelligent life, possessing powers of discrimination, voluntary application of will, intelligent direction, application and execution of its powers. Many animals have souls, but none have nine attributes. The dynamic entity or the power of life and the intelligent entity of the soul, having lived in a blended state within the enclosure known as the body, after death or dissolution (this intelligent entity or the soul loses its form by blending with the dynamical entity of human, and since this latter form existed as a dynamic entity in the beginning of creation before matter encompassed it, hence will remain such after being stripped of the physical outline), enter a dynamic world and there exist under new conditions where natural laws still govern. Its condition must of necessity be subject to the dominant and universal law of vibrations, and by the law of correspondence levitates to a plane that corresponds to the manner of life of the individual, which in turn gives the soul its "pitch and octave."

Insomuch as the electrical science has undermined the materialistic foundation of science, so has the modern science of psychology undermined the materialistic philosophy of life, and if the views here presented seem to be radical, the maxim that "coming events cast their shadows before" will tend to modify the impertinence of my intrusion.

THE TREATMENT OF SYPHILIS.*

BY BUCK G. CARLETON, M.D., NEW YORK.

Genito-Urinary Surgeon to the Metropolitan Hospital.

TO treat syphilis successfully, the physician must have a comprehensive knowledge of the pathological and natural history of this chronic disease, as well as of the idiosyncrasies of the afflicted party, otherwise seeming results may be misinterpreted. Without treatment, the disease may present all gradations of manifestations, from the trivial to the very malignant, due, as some believe, to the presence of some property in the blood which antidotes, to a certain extent, the intensity of the morbid principle, be it a micro-organism, a virus, a toxine or a degraded cell, which has entered the system through some abraded surface, producing the condition we call acquired syphilis, or, if transmitted in the earliest embryonic life, hereditary syphilis, in both forms having the power under certain conditions to reproduce itself in others who are not immune.

In the primary stage, while waiting developments or the appearance of the secondary manifestations, the patient should be informed of the probable nature of the disease, the necessity for the protection of others from infection by direct or indirect contact. He should at the same time be counseled to attend closely to his treatment, which will require a varying period, averaging about three years, during which time he must be subservient to the treatment, hygiene, etc., considered advisable by his physician. This must be particularly emphasized at the first visit, for if the treatment pursued is successful, but few secondary and no tertiary manifestations will appear, and their absence may develop

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in the mind of the patient a feeling of great security or a tendency to question the accuracy of the original diagnosis. The patient should be encouraged, and we can in all honesty state that the disease is curable, and, barring some special idiosyncrasy, at the end of three years' treatment of the various manifestations and the following of the judicious hygienic advice given, the loathsome disease may prove a blessing in disguise, and he will pass out of the shadow with a system free from disease and capable of becoming the parent of perfectly healthy offspring.

During the early period of the disease, nothing should be permitted to reduce the general vitality of the patient, and special care must be taken to bring the system to the highest general health possible, and to keep it so during the entire duration of the illness, through massage, hot baths, douches, special exercise, change of climate, attention to the amount of sleep, etc., as required by the individual case, remembering that it is a patient and not a disease which is being treated, and that the activity of the germ or virus depends upon the vulnerability of the patient and our success in rendering the system as far as possible immune to its destroying influence. Tobacco must always be prohibited, and alcoholic beverages and sweets only allowed in moderation, the diet regulated, the teeth put in good condition and kept so by proper care. When mercury is prescribed in any form, acids must be interdicted. The primary lesion or chancre must *never* be cauterized. Occasionally, if it is situated on the lip, the finger, on the labia or prepuce, it may be advisable to surgically remove it and close the wound with proper sutures, in order to avoid an infecting ulcer, though its removal will not in any way affect the general course of the disease. Chancres should be carefully cleansed with antiseptic solutions and be dusted with bismuth subnitrate, zinc, oxide, iodoform, orthoform, aristol, dolemole-calomel, etc. If the prepuce of the male is long and the preputial opening narrowed or contracted by inflammatory induration, lateral incision of the foreskin may be advisable to allow of the proper care of the original sore and prevent gangrenous involvement. In the female, frequent douching of the infected part, with bichloride 1 to 3,000 and the application of gray plaster, held in place by a proper binder, will be of local benefit, though often the original lesion will not disappear until the treatment for the general secondary conditions is well under way.

During the three hundred and more years this disease has been recognized, by universal consent mercury has been one of the drugs most frequently administered to combat its inroads. That it has been beneficial is demonstrated by its continued use, and no careful observer will deny its efficacy when properly administered. Many have been the theories of action advanced by experts in so-called regular medicine for the brilliant results obtained by its administration. When we study the drug pathogenesis of mercury, we as homeopaths are at once enlightened on this subject. In the primary stage or that of chancre, mercury is rarely, if ever, indicated, and often when administered it obscures the early manifestations and makes the succeeding treatment less successful, and, above all, often does the patient untold injury.

For the primary chancre the remedy which I have found the most frequently indicated is *corallium rub.* For the secondary lesions, i. e., the erythematous, papular or pustular syphilides and their associated involvement of the mucous membranes, mercury is gen-

erally indicated, as well as in the breaking down of gummatous masses, and ulcers in the tertiary stage, which often appear similar to chancroids. Dr. Douglass, who has tabulated the skin conditions produced by mercury, in a late number of the *American Medical Monthly*, as well as the well-known comparisons of Franklin demonstrates the wonderful action by the law of *similia similibus curantur*. With regard to the administration of mercury, I must say that my most brilliant results have been accomplished when in the secondary stage. I have given it as inunctions, and when so administered tertiary manifestations are unusual.

Many of the German and French specialists in the treatment of syphilis and its complications, holding that the best way to administer mercury is by inunctions, after much experimentation along the line of producing a mercurial combination for use in inunction treatment which would possess all the strength of the ordinary ointment, but at the same time escape the objectionable features, chief among which is that it soils the clothing, have demonstrated that mercury in combination with a neutral soap was very satisfactory. In using it the skin surface is first wet, and the requisite amount smeared over the wet surface and then rubbed in thoroughly with the hand, a few drops of water being added from time to time. The whole of the soap will disappear in from fifteen to twenty minutes and leave the skin clean and dry. Brilliant results have been obtained from its use in the Berlin clinics.

Examination of the urine shows the presence of mercury the third following the first inunction. The latest and perhaps the most satisfactory preparation of mercury for inunction is the Vasogen mercury ointment, which is used in the same manner and dose as the mercurial ointment, but has the advantage of penetrating the integument more rapidly. When, for any reason, inunctions are contra-indicated, merc. sol. hah., the protoiod, or the tannate of mercury will be required. The biniod. is often indicated in neglected cases with tertiary manifestations, i. e., in the breaking down of gummata and the formation of ulcerations, especially on mucous membranes.

When the periosteum is involved, happy results will be produced by hypodermic injections of the bi-chloride. Calomel hypodermic medication has often been unsatisfactory, especially on account of the local effects which it produces. Fumigation is sometimes of benefit in neglected cases.

Potass. iod., by general opinion, is indicated in the so-called third stage, in increasing doses, though in neglected cases it will not act satisfactorily unless it is preceded by few inunctions, and often the remedy indicated for the general system will be required in conjunction with it to produce the best results. Why iodide of potassium acts as well and gives such unusually satisfactory results, authors differ.

O'Connor says potassium iodide acts upon the gummatous exudations as the sun's rays upon snow, and although we recognize its power of doing harm, yet that harm is not to be compared to the injury done by a rapid growing tumor. Colby, of Boston, in the discussion of Dr. O'Conner's paper, remarked that iodide of potash is simply a liquid knife, as necessary as the fingers which pull out the splinter, and he believed in giving it in a manner in which it would do the work the quickest. If it must be given in the largest doses to remove gumma, the size of the dose was immaterial.

Farrington says the tendency of this drug is to pro-

duce infiltration; it seems to affect the lowest tissues, as the fibrous, acting particularly upon the periosteum and connective tissues, attacking the nervous system ultimately, probably by involving the neuroglia. He advises it in many tertiary manifestations and also says when gummata involves the nervous tissues the iodide of potassium is the only hope. I have never found small doses of iodide of potash of benefit, the usual effect noticed being a primary action of the drug upon the mucous membrane and skin without benefiting the patient; pronounced prompt and satisfactory results have only been obtained when it was administered in full doses, depending upon the case.

Local conditions must receive careful consideration. Many of the mouth lesions may be avoided if the teeth are cleaned three times daily, and the mouth and throat gargled with a solution composed of sodium borat. 3 tinct. of myrrh and catechu 3 ss, aqua 5 viii. In the secondary period the following gargle will often be of benefit: Potass. chlor. 3 i., pulv. alum gr. xvi., aq. mint pipertæ i., aqua xvi. When mucous patches are present a gargle of hydrogen peroxide and water is often very beneficial.

Later, when gummatus ulcerations are present, the destructive ulcerations may be curtailed by cauterizing with arg. nitr., twenty to sixty grains to the ounce; or, when severe, by packing the mouth twice daily, after proper aseptic cleaning with iodoform gauze, and compelling respiration through the nose.

Fissures and proliferations about the anus should be touched with the Paquelin cautery and dressed with iodoform or with precipitate ointment.

Popular syphilides, mucous patches, and condylomata of the genitals must be bathed with a 50 per cent. solution of electrozone and powdered with calomel.

Onychia and paronchia require frequent emersion in warm solution of bichloride, 1 to 3,000, and the continued development in caps of gray plaster, held in place by a proper finger steel.

Palmer and plantar papules and fissures are treated in a similar way, or white precipitate ointment protected by gloves at bedtime may be substituted.

The scalp is frequently the seat of special local conditions. When papules only are present, the daily application of white precipitate ointment may be all sufficient. If later there is a tendency for the hair to fall out the daily brushing of the hair for five minutes and the application of the following tonic: Glycerine, two ounces, brandy, ten ounces, aqua, q. s. to make one quart, will act satisfactorily. When destructive gummata or ulceration are present, the hair must be cut close and dressed twice daily, after proper aseptic methods with mercurial or iodoform ointment, or gray plaster, held in place by proper bandages.

While the local and general treatment as outlined is being conducted, the indicated symptomatic remedy for special and general systemic conditions, which may be either syphilitic or non-syphilitic or both, must receive careful consideration. To a large degree the future of the patient will depend upon the care which the physician gives to this part of the treatment of the patient, who is depending upon him to restore him to health.

—In the opinion of a Berlin physician, Dr. Rosenbach, the causes of that annoying and persistent redness of the tip of the nose, which is particularly frequent among women of a delicate complexion, are the pressure of the veil and the friction produced by it. Treatment consists primarily in the disuse of the veil.

RECENT LEGAL DECISIONS OF INTEREST TO PHYSICIANS AND SURGEONS.*

A DOCTOR may, as an expert, say whether or not plaintiff's condition was attributable to the fall received. *Tracy vs. Metropolitan St. Ry. Co.*, 63 N. Y. Supp., 242.

On a trial for abortion, defendant's cards are admissible in evidence, if they tend to show that he holds himself out as a person whose business it is to procure abortions. *Commonwealth vs. Barrows*, 56 N. E. Rep. (Mass.), 830.

When defendant's cards, admitted in evidence in a prosecution for abortion, tend to show that he holds himself out as a person whose business it is to procure abortions, it is proper for the prosecuting attorney to argue to the jury what their meaning was. *Commonwealth vs. Barrows*, 56 N. E. Rep. (Mass.), 830.

Act 1896, Chap. 378, Sec. 5, providing that the holder of a diploma in dental surgery "may be examined as to qualifications" by the State dental board of examiners, refers only to such qualifications as are essential for the practice of dentistry. *State vs. Knowles*, 45 At. Rep. (Md.), 877.

Laws 1893, Chap. 214, Sec. 23, providing that the authorities of any city or town may make regulations for the vaccination of its inhabitants, and impose penalties for non-compliance therewith, is a proper exercise of the police power of the State to legislate for the public welfare. *State vs. Hay*, 35 S. E. Rep. (N. C.), 459.

A town ordinance requiring all citizens "not successfully vaccinated within the last three years" to be vaccinated before a date named, under a penalty of fine and imprisonment, is not invalid because no exception is made as to persons whose physical condition renders vaccination dangerous. *State vs. Hay*, 35 S. E. Rep. (N. C.), 459.

The fact that a person's health is such as to make it unsafe for him to submit to vaccination, or that, in the opinion of his physician, he is already sufficiently vaccinated, is matter of defense, in a prosecution for violation of an ordinance for compulsory vaccination, the burden of proving which is on defendant, and the determination of which is for the jury. *State vs. Hay*, 35 S. E. Rep. (N. C.), 459.

Plaintiff, by testifying to his injuries, and calling as a witness Dr. K., who had attended him and examined his injuries, does not waive the right to insist on exclusion of the evidence of Dr. S., who, though he had been called in by plaintiff prior to his having Dr. K., had, so far as the evidence showed, never examined his injuries, but only given him some medicine. *Tracey vs. Metropolitan St. Ry. Co.*, 63 N. Y. Supp., 242.

Defendant having placed a doctor on the stand, and asked him what condition he found plaintiff in, referring evidently to the time when he visited him just after the accident, a ruling of the court that, before permitting the examination to proceed, it would afford plaintiff an opportunity to ascertain by whom he was called, so that the question of privilege could properly be passed on, was proper. *Tracey vs. Metropolitan St. Ry. Co.*, 63 N. Y. Supp., 242.

A regular practicing physician, holding a diploma from an accredited medical college, chartered by the Legislature of the State in which it is situated, and having such diploma duly recorded in the county where

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he resides and who is engaged in the practice of his profession, may recover compensation for medical services, although he has never obtained a certificate to practice from a medical board appointed by a district judge of this State. *Carleton vs. Sloan*, 55 S. W. Rep. (Tex.), 753.

Laws 1893, Chap. 214, Sec. 23, authorizing cities and towns to make regulations for the vaccination of the inhabitants "under the direction of the local or county board of health, or a committee chosen for the purpose," does not require the Board of Aldermen of a town to act in conjunction with the Board of Health in the passage of an ordinance under the statute, but merely that the execution of the ordinance shall be under the direction of the Board. *State vs. Hay*, 35 S. E. Rep. (N. C.), 459.

In a prosecution for pollution of a city's water supply under an ordinance passed under 2 Mills' Ann. St., Sec. 4,403, Subd. 68, giving cities jurisdiction over rivers for five miles above the point from which their water supply was taken, it was no defense that another city was also within five miles of the place where the alleged pollution occurred, and might also claim jurisdiction to punish defendant; for in such cases the pollution of the waters would be two distinct offenses against the two sovereignties. *City of Durango vs. Chapman*, 60 Pac. Rep. (Colo.), 635.

Under Act 1896, Chap. 378, Sec. 5, providing that a graduate of a college authorized to grant diplomas in dental surgery "may be examined as to qualifications" by the board of examiners, and that he shall be registered after passing the examination; the board must examine an applicant, though the closing sentence of the section uses "may" in a permissive sense by providing that a graduate of a regular dental college may be registered without an examination. *State vs. Knowles*, 45 At. Rep. (Md.), 877.

Act 1896, Chap. 378, Sec. 5, requiring graduates of colleges "authorized to grant diplomas in dental surgery" to pass an examination before being permitted to practice dentistry in the State, but enabling the examining board to waive an examination of a graduate of a regular college of dentistry, does not confer an arbitrary or unreasonable authority on the board, thereby authorizing a deprivation of property or liberty without due process of law, within the Declaration of Rights, Art. 23, and Const. U. S., Amend. 14. *State vs. Knowles*, 45 At. Rep. (Md.), 877.

A special verdict, in a prosecution for the violation of an ordinance for compulsory vaccination, that defendant had been examined by S., a reputable physician, who told him that he did not need vaccination, and that P., another physician, told him that he had rheumatism, and could not submit to vaccination, is too ambiguous and defective to determine whether the jury found that defendant did not need vaccination, or that his condition of health made it dangerous for him to submit thereto. *State vs. Hay*, 35 S. E. Rep. (N. C.), 459.

Durango City Ordinance No. 42, Sec. 3, provides that no pigsty or place of any kind, the drainage of which could contaminate the river, shall be maintained on or along a river, within five miles above the point where the city's water supply is taken. Defendant constructed a pigsty and slaughter house within such distance, and so situated that the drainage therefrom flowed into the river, and hogs inclosed therein had access to its waters. *Held* a violation of the ordinance, and that, his place being a nuisance *per se*, it was immaterial whether or

not the city had authority to declare it such. *City of Durango vs. Chapman*, 60 Pac. Rep. (Colo.), 635.

Under Acts 1896, Chap. 194, requiring all persons who had practiced medicine prior to June 1, 1892, and had not registered before July, 1894, to make an application to the board of medical examiners for a certificate to practice, etc., a physician who had practiced since 1882, but had never registered, was entitled to a writ of mandamus to compel the president of the board of medical examiners to investigate his application for a certificate, where the president had refused to do so because the applicant had no diploma, since the possession of a diploma was not a requisite for registration under the statute. *Manger vs. Board of State Medical Examiners*, 45 At. Rep. (Md.), 891.

Where the statute on which an indictment for practicing medicine without a license was based declared, among other things, that the use by a person of the title "Dr.," "Doctor," etc., or the exposure of a sign, circular, advertisement, or any other device or information indicating thereby the occupation of the person, shall be considered prima facie evidence, a charge of the judge to the jury to the effect that the card which the defendant gave to the prosecuting witness, along with the bottle of medicine, on which his name appears as Dr. A. M., was, under the act, prima facie evidence to the jury that the defendant was practicing medicine, or holding himself out as practicing medicine, at that time, was *held*, on review, not to be erroneous. *Mayer vs. State*, 45 At. Rep. (N. J.), 624.

Upon the trial of an indictment charging the defendant at a certain time and place with commencing the practice of medicine without license, by then and there prescribing for one C. H. a certain medicine, etc., a business card of the defendant, containing his name, with the title "Dr." prefixed, and advertising himself as pharmacist and chemist, and with having a free dispensary at his place of business, where registered physicians were in attendance daily to give medicine and surgical advice free of charge, after being identified by him on cross-examination as having been put in circulation by him within two years previous to the date of the offense charged, was admitted in evidence over the objection of defendant. *Held* on review, that the card was admissible as a declaration of the defendant tending to prove that he had been engaged in carrying on the prohibited business, which was corroborative of the proof offered in support of the offense charged. *Mayer vs. State*, 45 At. Rep. (N. J.), 624.

Comp. Laws, Sec. 4,459, provides that the provisions of the statute relating to the public health shall apply to all cities and villages, as far as applicable, and all duties to be performed by the boards of health of townships shall in like manner be performed by the boards of health of cities, except where the charters of such cities contain provisions inconsistent therewith. Sections 4,424, 4,425, 4,427 and 4,460 provide for the removal of persons infected with contagious diseases, and for investigation by the board of health. Loc. Acts 1893, Act No. 403, Sec. 11, authorizes the Board of Health of city of Detroit, in cases of epidemic disease, to take such measures, though not otherwise authorized, as they may in good faith deem the public health to demand. *Held*, that the later section fell within the exception of the general law, and hence the Board of Health of the city of Detroit had authority to adopt a regulation requiring the whole of a double frame house to be quarantined, where smallpox breaks out in one-half of it. *Highland vs. Shulte et al.*, 82 N. W. Rep. (Mich.), 62.

Society of Pediatrics—Barlow's Disease, M. L. Guinon.—A child of 2 1-2 years, a few months previous seized with symptoms indicating Barlow's disease. There were digestive troubles, retardation of growth, gums became swollen, sanguinolent, fungous, only two incisors, oedema of the lower limbs, afterwards of the upper, malformation of the thorax, and at each inspiration, sinking of the thorax, indicating softening of the thoracic skeleton. Despite the absence of the subperiosteal hematoma and subcutaneous hemorrhages, rachitism, hemorrhagic softening of the gums, and the general oedema could only be explained by Barlow's disease. The child had been nourished from birth exclusively by milk carefully prepared and artificially modified, a fact important to note. Barlow's disease is exceptionally rare in France, as is well known, but very frequent in America, England and Germany, in countries where, for the alimentation of children, milk and farina carefully prepared, and malted, peptonized or lactosed, are largely employed, and often kept long before being used. M. Variol. In the absence of subperiosteal hemorrhages, there should be a hesitation as to the diagnosis. M. Guinon.—It is certain that this case does not correspond absolutely with the type described by Barlow, the hematoma of the limbs are wanting. But it must be considered as of the same nature as that disease. It is not necessary that all the symptoms of a disease should be present to complete its existence. In this case, the happy effort of the treatment, justifies the diagnosis. Artificial milk was given up. The child took it simply boiled, and with other food, potato, fruit, raw meat, it improved rapidly, digested well, oedema completely cured, thoracic deformities disappeared. M. N. Hutinel and Michaul saw a typical case of Barlow's disease, with subperiosteal hematoma of lower part of the two femora, subcutaneous ecchymoses, hemorrhagic gingivitis, etc. The child, for two years, had been nourished exclusively upon milk carefully sterilized, afterwards with milky farina, a little raw meat and citron juice produced a rapid cure. M. Merz.—A distinction should be made between milk sterilized from day to day at a temperature not reaching the point of ebullition, and milk sterilized at a high temperature and preserved for a length of time. This last should be rejected. M. Variot.—In my dispensary I distribute daily milk artificially sterilized to 150 nurses. One hundred and forty thousand litres of this milk have been delivered, and although carefully investigated, I have never seen Barlow's disease in children. M. Guinon.—If we compare with the tables published in France for the alimentation of nurslings, those published in America, England and Germany, we observe that infants of these countries absorb nearly double the consumption of ours. In France, moreover, sterilized milk is generally given under the advice of a physician, and he often continues to supervise the nourishment. In England, on the contrary, the use of milk and lacteal farinas compounded artificially is administered by nurses without medical supervision, and hence, doubtless, the happy immunity of France from Barlow's disease.

Biological Society—Microbiology of Dysentery.—M. Roger studied seven cases of dysentery from a microbiological point of view. Direct examination of the glairy mucus showed no amoebas, but constantly a very large bacillus, very abundant in acute cases, and morphologically similar to the bacillus of charbon. By direct cultivation of the dysenteric mucus, cultures were obtained of a large number of different microbes, and among them there was always the same large bacillus. By venous inoculation of a rabbit of the impure cultures, the animal succumbed in less than 24 hours. The organs, especially the spleen, contained a prodigious quantity, and in nearly pure culture, of the same large bacillus easily isolated—a little shorter than the charbon bacillus and rounder at the extremities, differs from that of Gram, more movable. Culture easy by usual methods forms rapidly a thick veil in gelose, liquifies gelatine, and develops a fetid odor, acidifies and coagulates milk, slightly liquifies bloody serum. Develops ulcerations of the colon with ragged edges, which seem to demonstrate that this organism is the pathogenic agent of these dysenteric cases, the specific microbe of dysentery, never found in normal stools, nor the different choleriform diarrhoeas. M. Lanerau.—In the researches of M. Uaillard, the large bacillus was not seen, but cultures gave the pure bacterium coli, and amoebae exceptionally. It might be concluded that dysentery is caused by the coli bacillus with especial virulence. M. Roger.—MM. Chantemesse and Wedal have also considered a microbe resembling a variety of the coli as the specific agent of dysentery. Perhaps there may be different pathogenic agents, I have received stools of the dysentery of Algiers which will enable me to enlarge the circle of my researches.

New Researches Upon the Part Played by the Liver in Infections.—M. Roger.—Numerous experiments having demonstrated that the liver is capable of arresting and destroying certain microbes, it became interesting to take up the question of the bacillus of dysenteriform enteritis. My researches may be divided into two series. Four rabbits received, by a branch of the vena porta, from 5 to 10 drops of a culture, two to three or four days old. They died at the same time or before those that were inoculated by the peripheric veins. This negative result seemed to be due to the presence, in the cultures, of toxic substances, capable of altering the liver and of preventing it from exercising its protective power. New experiments were then undertaken with more recent cultures. Two animals received by the vena portae 10 drops of a culture 18 hours old. Four others 5 to 10 drops, 4 to 5 hours old, the liquid containing a large number of bacilli, with no odor. Those inoculated by the peripheric veins with the same doses of the same cultures, all died, and those by the vena porta continued well. Then the liver can arrest the living bacillus, but cannot resist its soluble products. The bacilli appear to be rapidly destroyed by the liver. They disappear without exciting any reaction, so that on killing the animals at the end of some weeks, no hepatic alteration is found, but this is not always the case.

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The distances of nations are measured not by seas, but by ignorances; and their divisions determined, not by dialects, but by enmities.
RUSKIN.

THE ATLANTIC CITY MEETING.

THE Atlantic City meeting of the American Medical Association is said to have been the most successful in respect to numbers and social *eclat* of any yet held.

We are glad to hear that medical politics did not intrude upon the time which should be needed for the discussion of scientific subjects.

Dr. Keen's presidential address was, as might be expected, both practical and useful. The suggestion as to the endowment of medical schools is timely and worthy. The papers presented, so far as we are able to judge, were far above the average and covered a variety of interesting subjects. The ever-present subject of appendicitis seemed to be viewed from a more conservative point than usual, and moderation in searching for the diseased organ was advocated. Incision and drainage in severe attacks was recommended. Literature places recurrence at thirteen per cent., but it was considered too high. Dr. Senn says that eighty per cent. of all cases of appendicitis get over the first attack, and half of these never have a recurrence!

This is an important statement from a reliable source, and is no doubt correct. Dr. Keen would not allow a case to go beyond a second invasion. The consensus of the best opinion seemed to be in the direction of conservatism.

The serum treatment of diphtheria, from the report, showed a mortality of 38 per cent. without antitoxin and 14 per cent. with, which will settle the matter with the majority. The report indorsed the antitoxins made by Parke, Davis & Co. and Mulford as reliable.

The fact that "Every regiment in the United States service in 1898 developed typhoid fever," indicates the need of careful work to remove the cause, as it certainly can and should be done. It is a disgrace to our civilization that such a statement has to be admitted as

true. The remedy is not difficult to find, because it lies within the circumscribed limits of sanitation.

There is no doubt that personal cleanliness, so that the infection may not be spread by contact; the disposition of fecal matter by incineration, so that the drinking water may not be contaminated, and the reduction to a minimum of the possibility of the infection being carried by flies, are important factors in the consideration of the subject. Dr. Vaughan's report was elaborate and exhaustive, and deserves close study by those whose duty it is to see that our soldiers have every possible protection from the dread disease. On the whole the meeting was considered satisfactory by those present.

"SHALL THE SPECIALIST DIVIDE THE FEE, ETC."

DR. EMORY LANPHEAR, of St. Louis, the distinguished editor of the *Am. Jour. of Surg. and Gynecology*, has sent us an abstract of a paper of his with the above caption, and the request that we publish the same, with such comment as we see fit to make. We regret to say that we do not agree at all to the position our able contemporary takes in the matter under discussion.

Because the "attorney" divides the fees, is no reason why the "physician" should, and we can see no justice in either case. "The laborer is worthy of his hire," and the "distinguished gentleman," be he lawyer or surgeon, is entitled to a fee suited to the case, regardless of the attending physician.

The misfortune of the patient should not be made a pretext for mulcting him, to the extent of his pocket-book. The attending physician has a right and should receive a fair remuneration for his services, be they large or small. Some surgeons take advantage of patients who are able to pay, and demand fees out of proportion to the service rendered. We have heard of a case in which a metropolitan surgeon called to the country to do a major operation, doubtless making several trips, on the recovery of the patient was sent a check for \$10,000, probably with the feeling that the sum was ample. The surgeon, however, at the same time sent his bill for \$15,000, the two passing each other on the way. This shows the difference of opinion as to the value of professional service on the part of the layman and the professional. In this case the patient was able to respond with his check and that settled it, but in some instances this could not be expected. Every man should do as he would be done by, be he surgeon, lawyer or layman, and then his conscience at least will be clear.

Let us to the text of Dr. Lanphear's abstract:

"When an attorney in a county seat has a client in danger of the penitentiary (whom he *might* defend successfully, but fears failure) and hence in need of the best of counsel, it is customary for him to seek some eminent lawyer of a great city and request his aid. In so doing does he approach the distinguished gentleman and say: 'I have a client accused of ———, who is

able to pay \$3,000 for his acquittal; will you take the case with me for this sum—leaving me the gratification of having done my professional duty? By no means! He plainly states: 'My patron has \$3,000 to pay for his defense; are you willing to take \$2,000 of this to join me in securing justice for him?'

"Arrangements of this kind are made daily in every large city. Does anyone ever suggest that the country attorney has been guilty of a dishonorable act in thus securing his city brother to do the major part of the work for \$2,000, he retaining \$1,000 for his services? Would any doctor, sued for \$100,000, regard such a transaction as disgraceful, unethical, objectionable if thereby he were saved this sum?

"But let the question be one of saving life instead of securing liberty or preventing financial loss—and how different it is!

"If a country practitioner have a patient affected with recurrent appendicitis (upon whom he *might* operate with success, but fears possible failure) with a prospective fee of \$600, must he—in order to be 'ethical'—write to some city surgeon to come to his help, take all of the \$600 and leave him merely the satisfaction of a duty well performed, or at best, the little sum of money he may receive for a few visits at starvation rates? 'Upon what meat doth this our Cesar feed that he hath grown so great?'

"Why should not the country doctor plainly say to the specialist: 'I have a patient with appendicitis who is able to pay \$600. Will you operate for \$400 and allow me \$200 for the preparation, after treatment, etc.?' What would be wrong about this? Let Drs. Robt. T. Morris, of New York, and Burnside Foster, of St. Paul, who so vigorously maintain that division of the fee is unethical under any and all circumstances, point out what injustice would thereby be done to (a) the patient, (b) the attending physician or (c) the eminent surgeon. Why should we not learn a few things from the methods of our most noted lawyers, men who are above suspicion as to purity of motives? Have we not hitherto been too unmindful of the financial interests of ourselves and our professional brothers?

"I insist that the payment of a 'commission' for all business simply 'referred' to a specialist, or for a mere consultation, is probably unethical—certainly demoralizing in tendency; but that division of the fee is perfectly honorable and right when the specialist and the general practitioner jointly share the work and the responsibility."

THE ATLANTIC CITY MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

A GREAT meeting in point of numbers and papers read was held at Atlantic City from June 5th to the 8th. Monday evening preceding the Association is always given up to the dinner of medical editors and their friends. Tuesday morning found two thousand physicians ready for the imposing ceremonial

of opening the great annual convention. Among the new features this year was an exhibit of pathologic specimens and microscopic slides. It is to be a permanent attachment to the new Section of Pathology and Bacteriology. The Association is composed of thirteen Sections, the last named being added this year. The Section on Neurology and Medical Jurisprudence will hereafter be known as the Section on Nervous and Mental Diseases. The Section on State Medicine petitioned to change the name to that of Hygiene and Preventive Medicine. There were nearly five hundred papers on the programs of the Sections, about a hundred less than at the last meeting of the Association. The large numbers of papers have finally called for a new rule to save the Association from this army of writers of papers. Of this large number of papers many of them are excellent, but many also are too elementary and unimportant to be read at a great national convention. The new rules discourage as writers and readers of papers all those who have not been in practice for a period of ten years, deeming it better that writers with less than ten years of experience should content themselves with such opportunities for reading papers as their local and district societies afford. The Sections are also limited to a maximum of forty papers of twenty minutes' length. Abstracts of all papers are to be forwarded to the officers of the Sections two months prior to the annual meeting of the Association. Officers of Sections have authority to select or reject papers offered, and the writers of papers must be members of the Association, save in the instance of foreign delegates.

The President's address was directed to the interests of the Physician, the Profession and the Association. It urged the importance of an early completion of the Rush Monument Fund, a measure which has traveled at snail's pace. Some members of the Association would be pleased if it traveled even slower still. The President endeavored to awaken pride and renewed interest in the Rush project by reference to the success that has attended the proposed Hahnemann Monument. The Association was congratulated upon the defeat of the Anti-vivisection bill, notwithstanding that the Committee of Congress had unanimously reported in favor of the bill. While the impression prevails that the members of the Association desire the defeat of the Anti-vivisection bill, there are reasons to believe that the number of members who are in favor of restricted or modified vivisection is a large and respectable minority. The President dwelt at length on the advisability of endowed medical teaching and urged the necessity of a concerted effort to secure National and State aid.

Excellent work was accomplished in many of the Sections, and especially in that on Physiology and Dietetics. The address of the Chairman, Dr. Elmer Lee, was devoted largely to Ptyalin Digestion, containing much that was both original and new. The interest was greatly augmented by a paper on the Relations of Alcohol to Nutrition, and was a master effort that swept

away every vestige of reason for the recent claims from the Wesleyan University in favor of alcohol as a food. Nutrition is a complex requirement and it is not correct to say that a product of katabolism like alcohol, is a food, which fulfils only one of the many tests for a food. Alcohol was scientifically demonstrated by the writer to be an irritant, a paralyzer and necrotic. The excellent work of the Section on Physiology is to be augmented next year by including in its scope practical Physiologic or Natural Therapeutics.

Dr. C. A. L. Reed, of Cincinnati, was elected President for the ensuing year, and the next annual meeting is to be convened in St. Paul, Minnesota, the first week in June, 1901.

IS MATTER THE OUTCOME OF SPIRIT?

CHEMISTRY has resolved the structure of the world into elements of which thus far about seventy have been discovered. [The list is slowly growing, but those recently discovered are so seldom met with in nature that they are but little utilized in medicine, art or manufacture. The recent theory that an atom is not simple but compound, composed of a large number of parts, each of which can be isolated and dealt with individually, each fragment or part charged with Helmholtz's unit of electricity suggests the question, is there really but one element, all the chemical elements being built of the same primal atoms, differing only in their number and arrangement? The fragments of the molecules do not differ, but are always the same. The elements then are built up of molecules or combination of atoms, all precisely alike except some are charged with positive and others with negative electricity. A certain number of atoms arranged in some unknown grouping will form a molecule of hydrogen, while a ratio of one to two results in a molecule of oxygen, and so one after another of the elements are built up and combining with other elements form the substance of which our planet is composed.

These atoms when free possess always the same electric charge. This brings us face to face with the question which science has as yet failed to answer and upon the solution of which so much depends in future investigations, are these atoms anything more than electrons and have they any material substance whatever? Are they anything more than electric charges? A theory of Eastern philosophers that has been adopted by some scientists in the West is that the atom is but a vortex ring in the ether—an arrested particle. The immeasurably reduced vibrations are said to be the result of electric action through which we have the phenomena of matter in all its myriad forms. But if the ultimately substantial nature of the atom is to be accepted, the next step in our investigation must be, what is an electric charge? Is the mystery of the material world and of all worlds to be solved in answer to the question, is matter the outcome of spirit and are we absolutely on

the right track in the interpretation of the law of vibration?

If the atoms are resolved to vibrant particles of spirit or energy and the universe is made up of these vibrant atoms, it follows of necessity that the universe is a vibrant structure whose dominant law is that of vibration. If the atom is a particle of energy then matter only becomes such by their aggregation, so that every molecule is a vibrant entity.

Light is but an electric phenomenon; all light, the light of the sun, the candle or incandescent light. Without electricity there is no light. Take away the light carrying ether and the electric and magnetic forces can no longer traverse space.

What is light? It is an undulatory motion. We know the velocity of these waves and their lengths; we know that there are transversal waves and we know also the geometric condition of the motions. It is just as certain that space is not void, but filled with something capable of forming waves—the ether. As it regards the ether, we know as yet nothing of its attributes. We know, however, that the ether is the vehicle of electricity, only the length of the electric waves is not, as in optics, a minute fraction of a millimeter, but of the length of a meter, decimeter, a kilometer. We find electricity everywhere, in every flame, in every luminating atom, in thought. Even if a body does not give light, but merely heat, it is the seat of electric processes, and in the case of bodies that give light without heat—the firefly, for example—we find the same principle in operation. In ancient times they believed that everything existing was made out of water or fire. Modern physics justly asks whether or not everything is not produced from ether. Is ether to be considered as matter, as that term is generally understood?

What we call light is but a sensation produced on our optic nerves, by ether waves vibrating at the rate of from 400 to 756 trillions per second. Heat is the sensation produced by 350 to 600 trillions vibrations per second. Sound is the sensation produced on our auditory nerve by 32,000 to 36,000 air vibrations per second. Electric waves are 15 million times longer than the light waves.

Much of the so-called science of the seventeenth and eighteenth centuries has had to be rewritten in the light of the developments of the nineteenth century. In the study of the law of vibration, which is now being carried on with so much energy and intelligence, is it not clear that we are standing on the threshold of unparalleled developments of science, which in the rapid and logical unfolding of that universal law may give us a clearer idea of the phenomena of life and lift the veil from many of the mysteries of creation?

Summing up the line of argument which we have pursued in discussing the question, "is matter the outcome of spirit?" we have seen that, while it is true that the form and modes of energy of the hypothetical ether can be measured, determined and expressed in physical

terms, science as yet has not succeeded in discovering the true nature of the substance underlying that energy; but the little she has discovered about ether, and the attribute ascribed to it, is so contrary to our conception of matter that we are forced to the conclusion that all the various manifestations of energy are the result of a so far unknown spiritual force or entity?

A PSYCHOLOGICAL STUDY.

THE distinguished professor of psychology in the University of Geneva, M. Flournoy, has recently given to the public, through a Paris publishing house, a work of such marked interest among thoughtful readers that two large editions were speedily exhausted. The work is entitled: *Des Indes à la Planète Mars: Étude sur un cas de somnambulisme avec glosolalie*. In the hands of so distinguished a thinker as M. Flournoy the revelations given to the professor in person, and recorded by him in a book, by the medium to whom, for purposes of publication, he gives the name of "Mlle. Smith," form a substantial contribution to science and has at the same time, to the general reader, all the charm of the most fascinating romance. "Mlle. Smith," who on week days is a clerk in a dry goods store, on Sunday acts as an unpaid "medium" of a spiritualistic circle at which Professor Flournoy was present by invitation and to whom, under his personal examination, these revelations were made while the medium was in a trance state in which she seems to live over the scenes in her past life, the personation of which have all the appearance of reality. She becomes once more Simandini, a wife of Sivrouka Nayaka, the rajah of South Kanara, who built the strongholds of Crandagiri on the Malabar coast in 1401. She is once more the delight of the harem and reënacts the terrible scene of *sutti* which closes her life. She discourses fluently in a mysterious Oriental tongue, the words of which the bystander's ignorance could only imperfectly reproduce. Professor Flournoy did not recognize the historical facts, with the name of the rajah and his wife, in history, and only after a search through the Royal Library in Paris found them in an old volume. At other times she reverts to another life of crowned misery Marie Antoinette, and plays the part of the dethroned queen with dramatic propriety. Throughout she remains in touch with the persons who have once entered into her life, and recognizes among her present friends Philippe Egalite and the old Marquis of Mirabeau, while the Caagliostro, who was once entangled with Marie Antoinette in the affair of the diamond necklace, now functions as her "spirit guide." She sees in M. Flournoy himself a reincarnation of her Indian husband, Sivrouka Nayaka. One of the most startling revelations is given in her third series of trances, in which, through another person in her Indian life, but now living in Mars, she not only enters into communication with the inhabitants of that planet and describes

its scenery, but speaks and writes (with a peculiar script) and translates the Martian language. This language is quite different in vocabulary from French, the only language the medium knows, and, although it resembles it somewhat in syntax and structure, is evidently a distinct and original language. The reader can speculate as he sees fit upon the facts given by M. Flournoy and form his own conclusions, but it would hardly seem probable that the historical passage in reference to the Indian rajah and his wife, which the professor found only in an old book, after searching through one of the largest libraries in the world, should ever have met the eye of Miss Smith and formed the basis upon which she constructed the poetic romance of Simandini. And yet this is the explanation which M. Flournoy gives as the most probable. Of course he cannot prove that the story told of Mars is correct; the fact remains however that specimens of a language were given, with all the marks in its construction of an original language entirely unlike any known on this planet, and in a script bearing no resemblance to any known.

M. Flournoy in his narrative dismisses most emphatically any idea of fraud on the part of the medium, and makes no pretences to give more than a speculative interpretation of the wonderful statements made by the medium while in a trance state. Possibly science has done all that it can in tracing the inspiration of the medium's mind, leaving no better theory than that the simply stated facts, the unfolding of which are among the unsolved and perhaps unsolvable mysteries of the spiritual world.

MOSQUITOS AND MALARIA.

THE theory that malaria is contracted only through inoculation by a particular species of mosquito is about to be tested, to a certain degree, by two English physicians, Dr. L. W. Sanbon and Dr. G. E. Low, who propose to live in a mosquito-proof hut, in the most malarious district of the Roman Campagna during the entire malarious season from June to October of this year. If next October they return to their homes having had no traces of the fever they think the theory will be proved. During the day they will be at liberty to go where they like, but from an hour before sunset to an hour after sunrise they will be confined to their hut. In reference to the test Dr. Sanbon says: "We are going over there simply to be experimented upon; we shall not be allowed to take any quinine or other precaution against illness—only against mosquitos. We are to mix freely with the people in the Campagna, and practically all of them have malaria. They are trying to reclaim some of the less infected parts of the plain, and those people are the laborers. They are not Italians—Italians refuse to go there—but peasants from Normandy and the south of France, who come there, great, strong, lusty fellows but last only a little while, dying or becoming so weak with disease that they have

to go home, and they never get well. That is the worst of malaria; it comes on slowly, clings to a man, and when it finally goes, leaves him open to all sorts of diseases. In Italy two millions suffer from it every year. Of these fifteen thousand die, 7.75 for every thousand attacked."

The experiment now being tried will settle the question that mosquitos may be the carriers of the malarial poison, but it by no means proves that they are the only carriers of the disease germs. Every physician in active practice can point to scores of cases contracted where no mosquitos were present and when the germs must have been evolved from stagnant water and decomposing vegetable matter. Surgeon General Sternberg some years ago showed that when a certain plant abundant in malarial districts was placed in the window of a sleeping room so that the air could freely pass over it, the inmate of the room would be sure to get the disease, while those sleeping in other parts of the house escaped. Animals are often the carriers of infection, in a different way however from that claimed for the mosquito, where the poison is introduced by the bite or sting. The rat, the dog, the cat and the monkey contract the disease themselves, such as measles, scarlet fever, diphtheria and the black plague, and communicate to human beings by their presence and excretions. All these factors are to be taken into consideration in the study of communicable diseases.

BEWARE OF THE DRY MICROBE.

WHY are there so many cases of disease of the serious character developed in families who have returned to their city homes from their summer outings among the mountains, by the sea-shore, or in what was supposed to be the pure air of farming districts, where the food has not a suspicion of the taint arising from decomposition, and malarial fevers are almost unknown? The cause is often assigned to influence arising from the summer outing, when in nine cases out of ten the real cause is to be found not in the country, but in their city homes, which have been closed for a longer or shorter time during the summer. During all this time the waste pipes were left open, so that as the air passed over their dry surface there was a free admission for the microbes carrying with them and depositing upon the walls and the floor the seeds of infection to the returning family. The country was not to blame for the outbreak of the fever, often fatal, but the head of the family in neglecting the precaution of so guarding the waste pipes that no microbe can enter during their absence. This matter is of such vast importance and has been so much neglected by householders, that in a recent letter addressed to the *New York Herald* we said:

Fresh water should flow through the waste pipe in every home in the absence of the family during the summer months, not only that the tanks may be freshened and the water seals kept intact, but in order to

prevent the accumulation of dry microbes, which ought to be dreaded far more than any sewer gas.

Microbes never rise from moist surfaces. The strongest current of air may sweep over a layer of infectious bacteria and be breathed with impunity, provided the surfaces to which they cling be kept thoroughly moist.

It is only when these minute germs are dislodged from their position by dryness and float about with the dust that they become a source of infection and danger.

We all know the tendency of dust particles to settle down again as soon as they find themselves in quiet places. This is why it is so dangerous in the early autumn to open houses that have been closed for the summer months. It may also solve the greater question why householders on returning to their homes frequently succumb to fatal illnesses, the origin of which is too often attributed to the places where they have spent the summer.

Waste pipes in closed houses should therefore be systematically flushed at least four times in every twenty-four hours.

THE MOSQUITO MALARIA TEST.

DRS. L. W. SAMBON and G. C. Low propose spending the summer in a mosquito-proof cottage, in the Roman Campagna, for the purpose of testing the theory that malarial inoculation takes place only by means of the mosquito. Every possible precaution will be employed to make the test crucial, for much will depend upon the result. The question, although positively asserted by some, is far from settled at present. The imprisonment will cover the entire malarial season, and daily from an hour before sunset to an hour after sunrise, these being the dangerous time limits. We shall look with interest for the report of this practical undertaking. It has been stated that sulphur taken internally will prevent the biting of the mosquito, and if this is true, it might be easier to prescribe this drug to the inhabitants of the infected district than to go to the expense of the investigation. It is worth trying, and we would suggest that one-tenth grain tablets of the trituration is far more serviceable than five grains of the crude drug. It seems to permeate the minute capillaries as the crude drug cannot.

THE South African war gives a new illustration of the fact that in every war it is disease rather than the bullets which is most fatal to human life, and to which a large proportion of the expense must be charged. The deaths in the British army during the first five months of hostilities were 3,447, of which 2,418 were due to battle and 1,029 to disease. Two months later the killed or those who died of wounds, numbered 2,893, while those who died of disease 2,492. This is an increase of 475 to the total deaths from fighting and an increase of 1,363 to the list of those result-

ing from disease, or a monthly average of 237 in the former class and 681 in the latter. The percentage of deaths from disease is steadily growing as the war continues. The vital statistics of the South African campaign will furnish as valuable addition to the literature of military surgery and medicine as did either our civil or Spanish war, and may lead to important changes in those branches of the British service.

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The author has thoroughly revised the first edition, amplified, added to and in places modified it. Sexual disorders in women have been more thoroughly treated and new chapters written on vaginismus, masturbation in women and kraurosis vulvæ. Many of the chapters have been rewritten and much valuable information added, bringing the work in all its details fully up to the advanced ideas of the present time.

INTERNATIONAL CLINICS. A Quarterly of Clinical Lectures and Especially Prepared Articles on the Various Branches of Medicine and Surgery of Interest to Students and Practitioners, by Leading Members of the Medical Profession Throughout the World. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, Director of the Ayer Clinical Laboratory of the Pennsylvania Hospital, and Collaborators. Vol. I. Tenth Series, 1900. Philadelphia: J. B. Lippincott Company. Pp. 315, octavo.

A most interesting and useful volume. The article on carbuncle is alone worth the cost of the book. The material has been carefully selected, so that we have only the cream.

THE ANNUAL OF ECLECTIC MEDICINE AND SURGERY, Edited by John V. Stevens, M.D. Vol. 8, embracing the papers and proceedings of the various State Eclectic Medical Societies for the years 1897 and 1898. 8vo., 538 pp. Cloth, price \$2.00. The Scudder Brothers Company, Publishers, Cincinnati, Ohio, 1900.

The volume is illustrated with portraits of many of the leading members of the Eclectic school in the United States. The papers are all readable, covering a wide range of subjects and many of them of marked excellence, showing wide reading, careful investigation and originality of thought. The work will be a valuable addition to any library.

The circulation of the *Ladies' Home Journal* has reached 900,000, and passed it by 5,000—905,000 copies being the aggregate circulation of the April issue. This is an increase of over 36,000 copies per month for the last four months—since January first of the present year—over the corresponding period in 1899. Even these figures do not tell the whole story of the growth of

the *Journal's* popularity. But they stand for the extreme limit of the capacity of the presses upon which the magazine is printed, but which for the last year or more—even with the constant increase in their number, and running day and night—have been unable to keep the supply apace with the increasing demand. Every issue within that period has been exhausted in less than a fortnight after the date of publication, and the mechanical restrictions have made it impossible to meet subsequent calls for the magazine—several thousand each month.

A TEXT-BOOK OF PRACTICAL THERAPEUTICS: With especial Reference to the Application of Remedial Measures to Disease and their Employment upon a Rational Basis. By Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. With special chapters by Drs. G. E. deSchweinitz, Edward Martin and Barton C. Hirst. New (8th) edition. In one octavo volume of 796 pages, with 37 engravings and 3 colored plates. Cloth, \$4.00; leather, \$5.00, net. Lea Brothers & Co., Philadelphia and New York.

No book issued from the medical press within the past decade has attained a greater and more deserved popularity than the *Practical Therapeutics* of Dr. Hare. In the new edition many important therapeutic facts have been added, as well as a large number of new remedies which have stood the test of clinical experience the past two years.

In the first half of the work a knowledge of drugs, non-medicinal remedies, foods, etc., is clearly and concisely given, and the second half is devoted to the best treatment of the various diseases in which knowledge and its proper application, based on common sense principles, go hand in hand. The writer has been very successful in bringing together in a readable form the combined results of laboratory and bedside experience. Everything in the book is arranged alphabetically and, besides the tables of doses, weights and measures, a general and a special index of diseases and their remedies are added.

ANNUAL AND ANALYTICAL CYCLOPEDIA OF PRACTICAL MEDICINE. By Charles E. de M. Sarjous, M.D., and one hundred associate editors, assisted by corresponding editors, collaborators and correspondents. Illustrated with chromo-lithographs and maps. Vol. V. The F. A. Davis Co., Publishers, 1900.

The fifth volume of the cyclopedia commences with Methyl-blue and ends with Rabies. Those familiar with the preceding volumes will recognize the same clear and practical supervising mind and the success with which each disease and drug is treated, including an extensive résumé of the literature upon the different subjects for the past four years, which have made them so popular with the profession. The preparation of this volume has undoubtedly been the most arduous of the entire series, as it includes almost every specialty—otology, laryngology, ophthalmology, neurology, pediatrics, obstetrics, therapeutics, etc.—besides the sections usually classed under General Medicines and Surgery. The very able résumé of the literature for the past four years, which have been especially fruitful in research, gives the work a value which will be appreciated by every physician.

CORRESPONDENCE.

THE AMERICAN MEDICAL ASSOCIATION.

The Fifty-first Annual Meeting of this Association was held at Atlantic City, N. J., June 5-8, 1900. During the meeting of 1899, which was held at Columbus, Ohio, the weather was so hot as to make anything like comfort entirely out of the question. The Atlantic City delegation succeeded in convincing the members of the Association that June weather was never known to be uncomfortable at that city on the sea. Hence it was fixed upon as next place of meeting. The wisdom of the choice has been well demonstrated by the weather of this week. Delightful in every way, even the delegate who is afflicted with some hundreds of pounds of adipose tissue could find no complaint. The general session held its meetings on Young's pier, and many of the sections also met on the various piers. With the cool sea breeze blowing through the assembly rooms both speakers and listeners could give full attention to the subject under discussion. It is to be regretted that all the meetings cannot be held here or at some comfortable place. But not all the western members wish to journey across the continent each year. Hence the member's personal comfort must be sacrificed, if need be, to the question of geographical location. The very large attendance this week, the largest in the history of the Association, probably attests the popularity of this resort as well as a great interest in the work of the Association itself.

Both from the scientific aspect and socially the meeting has been a great success. Hotel accommodations were satisfactory, and the various entertainments, smokers, receptions, and section dinners furnished an almost continuous relaxation to be indulged in at times which best suited the individual physician. A friendly spirit pervaded the whole meeting. The dreaded political aroma which hangs around such meetings at times was conspicuous for its absence. Men were here to exchange ideas and to learn, each from the other. The admirable work of Dr. Keen, as President of the Association, doubtless had much to do with bringing about this result.

Of growing significance is the meeting of independent bodies of medical men each year during or preceding the meeting of the Association. By these we mean the American Academy of Medicine, the National Confederation of Medical Examining Boards, the Association of Medical Colleges, the Medical Editors' Association, etc. Much is done by these professional men in widening the horizon of medical attainment. Among the questions considered by the American Academy of Medicine this week was that of the supervision of the medical items printed in the daily papers. This is an evil which surely needs handling in a most energetic manner. The most trivial subjects, from a physician's standpoint, are made to appear of the greatest importance to people at large. Discoveries which are yet unperfected are gotten hold of and served up to the public as the long sought *multum in parvo* of medical research. Hopes are raised only to be dashed to earth by the subsequent history of the discovery, which may do more than its finder may have thought, but which has wofully failed in the minds of the laity. Discredit is thus brought upon the profession. Again, operations which are of comparatively easy performance are heralded as wonderful exploits of some well-known surgeon. This gives a false idea of the status of surgery, as well as subjecting the surgeon him-

self to the criticism of unthinking brethren. The discussion of this question by such a body of physicians cannot but be productive of future lessening of the evil.

In the same way the deliberations of the Medical Examining Boards are of increasing moment. The State control of medicine is of the utmost importance in these days of quacks and isms almost without number. The standard of the practitioner should be raised, but the doing of this with fairness is a very difficult question. One advance, the consummation of which is to be devoutly hoped for, seems likely in the near future if the signs can be read correctly. That is the interstate exchange of licenses, which is the undoubted right of the medical practitioner.

As to the workings of the American Medical Association itself, praise is more appropriate than criticism. More could be desired, however, in the shape of the program as a work of editing and arranging. Meeting places of the sections were given as being held at more than one place, forenoon sessions were specified when there were none, or omitted when they really were held, etc. This is, of course, only a small matter, but at a meeting of some thousands of men it is productive of confusion. The quarters for registration on Young's pier were commodious and the work of registering well handled.

The papers presented at the various sections were of the average order of merit reached at such a meeting. The wheat and the chaff were both there, and had to be winnowed the one from the other. Perhaps, as has been suggested, the great number of papers which are submitted for the program should be more thoroughly gone over by the committees, and a place given to merit, regardless of the name or position of the writer. That would be ideal, and, of course, should be aimed at. But it is a difficult matter to handle. And when papers of somewhat inferior merit do creep into the program they are not productive of as much harm as might at first be supposed. The listener weighs what he hears by his own experience and by the results of experts whom he has heard or with whose writings he is familiar. Hence the first effect is not demoralizing. Then it is often the case that an inferior article or an opinion which lacks caste brings out a more interesting and valuable discussion than does one which is considered orthodox by all, and which only receives a shower of "Amens" as a discussion. Hence the reading, and publishing in the proceedings, of papers of medium merit is not to be condemned too hastily. Every one has the right to his opinion. This is not arguing for a low standard of papers to be presented at such a meeting. It is saying that not all can be presented by the masters of the profession, and that there is not great need for mourning, though the fact is, of course, to be deplored. One thing should be thoroughly understood and insisted upon. That is that the papers should be limited to ten, or at the most twelve, minutes in length. One man cannot treat a subject in all its aspects and give a summary of all the literature upon that question, and no one wants to listen to forty or fifty such dissertations in three or four days. One phase of a subject should be treated concisely and intelligently. If a voluminous treatise be wanted for the transactions let a short abstract be read, which will bring the matter before the section. We commend the action of the chairman of one of the sections who brought down his gavel promptly at the end of ten minutes.

The address of Dr. Keen was a masterly one, and was received with great enthusiasm. As outlined at the start, it was devoted to the consideration of matters re-

lating to the improvement of the association itself and to the discussion of a subject of professional interest. The latter was one which is intensely interesting to the profession at the present time—the endowment of medical schools. Other schools are extending their scope, enlarging their curriculum, and increasing their facilities by means of the immense sums which they are constantly receiving as endowments. Medical schools are doing the two former; they are sadly handicapped in the last named direction by the lack of funds. Laboratory teaching is the fundamental principle of instruction in medicine to-day; and laboratories are costly. Again, instructors in many cases cannot be busy practitioners who run in for a few hours and deliver a lecture, but must devote their whole time to laboratory research and investigation. Such men must be salaried far above what the average instructor of to-day is receiving. Dr. Keen places the endowment needed in three categories: Professorships, laboratories, and post-graduate fellowships. The latter, while not outranking in importance the others, is of great moment. The student does not have time for original research, and if that very important element in his future success, the laboratory method of investigation, is to be thoroughly instilled, it must be done after he has graduated. As recently stated by Dr. Welsh, of Baltimore, the next fifty years will witness a struggle for existence on the part of independent medical schools, and those which are not heavily endowed will find it difficult to maintain an honorable existence.

The orations on Medicine by Dr. Witherspoon, Surgery by Dr. Rodman, and State Medicine by Dr. Vaughan were of an unusually high order of merit. They will be so extensively published that a review of them is hardly necessary.

The exhibit of books, instruments, and foods was large and varied. The attendants seemed less obtrusive than is usually the case, and presented the merits of their wares in a businesslike and unobjectionable manner.

The pathological exhibit, although an innovation and an unofficial part of the meeting, was one of the features of the week. The wisdom of Dr. Keen in arranging for such an exhibit was exemplified in the exhibit itself and the hearty recommendation received from the members of the association. The committee which arranged the matter deserves the greatest credit. The exhibit consisted of over 1,500 specimens from laboratories and specialists in all parts of the country. Among them were the sanitary exhibit of the Marine Hospital. Among the most valuable was the exhibit of ninety-five specimens of diseased meats brought by the Chief of the U. S. Bureau of Animal Industry. These meats were obtained from various points by the meat inspectors of the Government. The exhibit is to be made an annual affair under the auspices of the newly formed pathologic section of the association. Some dissatisfaction was expressed at the way of arranging of the exhibit, which was done according to specimens and not according to the individual or institution making the exhibit. This looked unfair at first sight, but it was the better way, as it made the exhibit an educational one without any attempt at advertising a special institution.

Ademonstration of liquid air in thesectionondiseases of children was a feature. Experiments point to the future use of this agent in medicine with gratifying results. This is another instance where the daily press has been working the people up to a high pitch of expectation.

The fifty-first annual meeting of the American Medi-

cal Association was one of the most successful and gratifying in the history of the organization. The entertainment of the profession and people of Atlantic City was all that could be desired; the weather was delightful; the scientific and social meetings were of a high order. There was a tolerance of each other's views and a disposition to learn the best methods that could only be productive of good and lasting results.

A SALUTARY DIURETIC.

"—but do not give a diuretic."

That is the dictum in the therapeusis of Bright's disease. It is the latest and *ex-cathedra*. The general agreement seems to be to the effect that more harm than good is done in the nephritic state by the use of the diuretic.

"The reason" for this?

We all know the hint that has masqueraded. It is said, in a "they say" sort of way, that it is "German, you know." In other words, it is a bit of policy in the interest of—shall we say piperazine? So the arraignment is complete, and the indictment is sweeping. It is the spirit of iconoclasm, and the slogan is:

"Abandon all diuretics. Let there be a substitute. Let it be—shall we say piperazine?"

I have nothing to say as to the merits of the German contention—German, for the want of a better name? I do, however, protest against this sweeping indictment of "all diuretics." By all means abandon the irritating diuretics. That goes for common sense and good sentiment. But—there are others. And—they are not of the piperazinic type, either. Get that idea out of the way. It is true—and pity 'tis—that juniper, buchu, scoparius, turpentine, copaiba, capsicum, uva ursi, and other best-known diuretics are irritating and therefore injurious. But this does not apply to eucalyptol, taraxacum and ruta. (Cantharis is also applicable where the condition is that of hyperæmia, with loss of vascular tonus, that is, in acute desquamative nephritis, with the acuter symptoms in subsidence.)

There are very good reports as to taraxacum, and the inclination should be toward favoring it. But much to be preferred is eucalyptol; and I dispose to consider it the one dependable diuretic—the only diuretic which is of sterling value in nephritis.

I recommend this prescription:

R Tr. belladonnæ.
Potas. citrate..... āā drachms iij
Eucalyptol..... drachms ij
Muc. tragacanth.
Syr. limonis..... āā drachms j
Aque..... ad oz. viij
M. Sig: Two drachms every four hours,

For chronic nephritis I omit the other constituents and give ten-drop doses in water three times a day. Where there is a condition of suppurative pyelitis, or chronic cystitis, I disinfect the genito-urinary tract thoroughly by the ten-drop doses.

And right here I am agreeable to the German dictum. In nephritis—as in the bacterial diseases of the urinary passages in general—I agree that "urinary antiseptics is the prominent indication." And in my opinion there is no more efficient urinary antiseptic than this same eucalyptol, which rapidly renders alkaline and putrid urines (containing mucus, pus, and excesses of urates and uric acid) normal in appearance and reaction. As it increases the quantity of the urine, it sterilizes it, and thus dissolves the calculi and deposits present. Wherever there is urinary poisoning in all

suppurative diseases of the genito-urinary tract, in calculus disorders, nephritis, chronic urethritis, pyelitis, pyelonephritis, and in the irritable diabetic bladder, it is antidotal. If there is a phosphaturic condition, I consider that the eucalyptol is especially serviceable, and particularly where the subjects are gouty or rheumatic, and there is a deficiency in the elimination of the urates and uric acid. Without any departure from the lines in evidence, let me add that in preparatory measures for operations upon the urinary organs, the eucalyptol will effectually prevent infection of the wound, and approximately sterilize the urine.

I never saw so much elimination of urea by the skin as when, in treating nephritis, the above prescription is employed. The increase over the normal is something immense. Add to this the elimination by the kidneys and by the broncho-pulmonary mucous membrane, and then note the lack of irritating qualities, and I think that it will be very apparent as to why it has attained such a prominence. It is certainly a drug of very remarkable powers. THEO. EDW. ITOR, M.D.

Westfield, New Jersey, June, 1900.

INFECTION BY THE BREATH.

The function of the lungs is to expel noxious vapors and to inhale the air obtainable for purposes of life. The air we breathe is laden often with so much which is impure and injurious to health that respiration is unable to accomplish the functions for which it was intended. The healthiest individuals are constantly giving off vapors which are, unless largely diluted with pure air, injurious to those who live with us, but the sick are much more capable of inducing injury to the apparently healthy, and the atmosphere of sick rooms and hospital wards becomes foul, ill-smelling and dangerous to health. Almost every schoolboy is taught this lesson, and yet physicians seem to ignore or lose sight of the fact in their management of hospitals and sick rooms. We can readily observe in cold weather how when two people are talking together they seem to exchange respirations, as it were, and the diseases with which they may be suffering stand a chance of being communicated by the breath. From the injury caused by the nauseating odors of those whose mouths, stomachs and intestines are more or less diseased, to the serious contamination which may be brought about by inhaling the respiration of those seriously diseased is merely a question of intensity of the grade. An "intoxication krankheit," caused by inhaling poisonous atmosphere, is firmly believed in by many eminent physicians. There are physicians, on the other hand, who scoff at the idea that "typhoid fever may be caused by a bad smell."

In Ziegler's *Patholog. Anatomy* (p. 845) inhaled impurities are shown to be the exciting cause of disease, broncho-pneumonic affections ending in chronic pulmonary change, etc. "If insoluble dust is capable of acting in this way, much more will dust containing soluble chemically active substances and organized or microparasitic irritants."

The air we breathe, especially in thickly populated places, very frequently contains such matters, and some of them must reach the lung and be deposited on the alveolar walls or enter its tissue or the lymphatics. Many of them do no noticeable harm, others, and especially the micro-organisms, pass from the lung into other parts of the body and act as the specific causes of infectious disease. Others again, give rise to local inflammatory change in the lung itself at the places where they settle. The bacillus of tuberculosis (or its spores)

is probably the most striking example, and there is no doubt that other disease-producing agents reach and act on the lung in a similar way.

In addition to these irritants inhaled with the air from the atmosphere without, we may have disease set up by inhalation of matters derived from the body itself, and carried into the alveoli of the lung—from the mouth, nose, pharynx, larynx or air tubes. Saliva and particles of food may be aspirated instead of swallowed—and pus from the larynx or bronchi may be carried into the respiratory parenchyma instead of being coughed up.

The former occurs in very young or comatose patients and the latter in those suffering from laryngitis or bronchitis.

These substances when thus aspirated usually set up more or less intense inflammation, especially when they are putrescent or contain putrefactive organisms, or specifically virulent agents, such as the bacilli of tuberculosis or of glanders.

Various forms of broncho-pneumonia, specific and non-specific, are thus induced, their course and character depending on the nature of the exciting cause. Tubercle bacilli give rise to inflammatory processes tending to caseation; the products of catarrhal bronchitis, as a rule, set up a similar catarrhal broncho-pneumonia—slight and usually transient in character; pus from a perichondritic laryngeal abscess tends to cause violent suppurative inflammation of the lung, and putrescent particles of food may lead to gangrene.

Various experiments have been made to demonstrate the truth of these statements by injection, by solution conveyed into the bronchi and by respiration, the various substances being suspended in spray.

When the inhaled matters are of large volume we have hæmorrhage, suppuration or gangrene, as the case may be. When the foreign matters are bulky enough to occlude one or more of the bronchioles the first effect is partial collapse or atelectasis. Large quantities of liquid quickly introduced into the lung may tend, as in drowning, to death by asphyxia. The liquid is carried with the inspired air into the alveoli and fills them with a mass of froth. The so-called vagas pneumonia is important in this connection. This form of inflammation is observed when the vagus and recurrent laryngeal nerves are cut, and is due to the fact that the paralyzed larynx permits saliva and foreign matters from the mouth to be drawn into the lungs.

What influence nervous disorders may have in causing pneumonia, etc., or what influence nervous conditions may have in permitting the lodgment and development of disease from foreign matters introduced into the lungs by inhalation is an interesting subject for investigation.

Prof. Flügge has shown that from the mouth of a person who is speaking comes bacteria contained in little bubbles of saliva, which, after remaining suspended some time in the air, are scattered through the surrounding atmosphere. Hubener has made experiments on the subject. Placing a man at a distance of 50 centimeters (1 foot 8 inches) from four agar plates representing a total surface of 200 square centimeters (31 square inches) he made him to count aloud for ten minutes. During that time from 100 to 1,500 germs, expelled from the mouth by the speaker, were deposited on the plates. Hubener draws from this fact the practical inference that a surgeon explaining the steps of the procedure during an operation might infect the wound by means of the germ expelled from his mouth in the act of speaking. To guard against this source of sepsis he

has constructed a sort of filter consisting of a metal cage covered with gauze. This apparatus, which covers the mouth and nose, is fixed to the ears like spectacles. Not long ago Hubener raised his voice in warning as to the infective possibilities of a surgeon's beard, and recommended that ornamental appendage to be enclosed in what may be called a bacterium net. One may conjure up a prophetic vision of the twentieth century surgeon with antiseptic mask, beard-bag, gloves, and sterilized robe, operating within a glass sanctuary into which no one is admitted except after the fullest disinfectant lustration. But Flügge's doctrine has a much wider application than he has indicated. If speech has these hitherto undreamt-of dangers for the audience, parliamentary and pulpit orators will have to wear germ-catching muzzles; this, besides protecting their hearers, will doubtless have the further advantage of making their eloquence less copious as well as more sanitary. Society will find in the same sanitary appliance an effective safeguard against bores.—Literary Digest, March 24, 1900, quoting from British Med. Journal.

Instead of the complicated muzzles and blow-bags mentioned, we must have practical hygiene taught in school and college, and in our medical schools as well, for, strange as it may seem, medical men are frequent offenders in these matters.

The surgeon who is so diseased that he can imperil the lives of his patients should be restrained from operating. An injunction should be placed on his bacteria-distributing functions. The use of antiseptic lozenges might be recommended for all operators, thus perhaps catching those who might otherwise be careless.

Every physician can call to mind importunate patients whose foul smelling breath fairly made him ill after breathing it in.

The injury such people inflict is much more than the disgust engendered by the foul odors. There are those earnestly intruding themselves upon others and delivering tirades against smoking whose foul breath, while they breathe out condemnation of tobacco, would be greatly mitigated if they themselves would but smoke for the comfort and safety of others, if not for themselves.

Smoking is a disinfectant, and is a decided defense against acquiring diseases, as well as a means of preventing its distribution to others. We have in some of the antiseptic solutions which can be employed as mouth washes, and, even in tincture of myrrh, disinfectants capable of neutralizing foul odors and even disease germs. Thus we can control processes which are otherwise capable of causing infection by the breath.

GLEANINGS.

"La Poignée de Main et la Santé."—From the *Journal d'Hygiène*, Paris.

The Grasp of the Hand and Health.—From the earliest times the most familiar gesture of the physician has been to place his hand on the wrist of the patient to feel his pulse. And even to-day, in spite of so many of the old customs having disappeared, the doctor who neglects this indispensable preliminary, loses his credit at one stroke. This is a formality, but he must accomplish it before he has the power to sign a prescription in due form.

If one may believe the *Journal of Hygiene*, they

can, however, replace this without any danger to the patient by a simple grasp of the hand; the more or less vigor revealing the precise state of health of the sick person. The grasp of the hand of a man in health is frank, spirited, and rather rough; if it is given against the rules of politeness, it betrays a temporary weakness of physical strength. The hand extended limp and without pressure indicates little energy, either moral or physical. If the grasp is rapid or nervous, the person possesses a temperament which is quick and easily over-excited. The hand which is given passively and without nervousness always betrays a weak condition. Physicians can find in the study of the hand grasp one element more to smooth the difficulties of the diagnosis.

This grasping of the hand of the patient is with many more than a polite formality. The character of the handshake is of great value to the observing physician. Aside from the clinical value of this common method of social intercourse, what a vast deal of import comes to us at the grasp of the hand of mother, wife, son or child, of friend, of comrade, of brother Mason or of the kindly priest who visits us in our affliction—"Then here's the hand, my trusty friend; give me that hand o' thine!"

—Epistaxis from the Ethmoidal Veins. A. Brown Kelly (Jour. L. R. & O.) calls attention to the spontaneous epistaxis usually originating from the lower and anterior part of the cartilaginous septum, rarely so profuse as to be dangerous, and annoying only from its recurrence. In the variety due to certain constitutional diseases, hemophilia and purpura, the blood escapes from numerous points of the mucous membrane. In another form the source of the mischief has been traced to the inferior turbinate, to veins in the posterior part of the nose (Schmidt), and to an artery on the floor anteriorly (Rosenberg). His attention, however, had been called to several cases where the blood descended from the upper and anterior part of the nasal cavity. He then relates the history of four cases, in three of which the blood was seen above the anterior end of the middle turbinate, and it was inferred to come from the same point in the other case, too weak to sit up for examination, since plugging between the middle turbinate and septum stopped the hæmorrhage. In two cases the stream descended over the septum. It was evident that the ruptured vessel was on the roof or septum above the anterior end of the middle turbinate, or corresponding with that of the anterior ethmoidal vessels. The circumstances under which the bleeding occurred suggested venous engorgement rather than arterial pressure as the cause of the rupture. One patient was asleep, the second stooping, the third lying quietly in bed, and the fourth washing his face. His explanation of the profuse and prolonged epistaxis in these cases is the anastomosis of the ethmoidal with the veins of the dura mater, superior longitudinal sinus, and a vein which accompanies the anterior ethmoidal artery through the cribriform plate. The fact that these veins can be injected from the longitudinal sinus proves the absence of valvular obstruction to a backward flow. It was probably through these vessels, or some anastomosing with them, where we find nasal hæmorrhage followed by a sense of relief to the head. The hæmorrhage is checked by firmly plugging between the turbinate and septum, and thus leaving free the lower tract for respiration. The nose should never be plugged for nasal hæmorrhage, but the bleeding point found and locally compressed and astringed.—(T. M. S.)

HOSPITAL REPORTS.

FRACTURE OF THE SPINE—LAMINECTOMY.

BY WM. FRANCIS HONAN, M.D., SURGEON TO HAHNEMANN AND METROPOLITAN HOSPITALS.

THE following case, seen during a service at the Metropolitan Hospital, presents points which it is hoped will interest the reader on a subject which is attracting much attention from the surgeon at present. Michael Sandy, age 38, longshoreman, was struck by a heavy freight elevator and sustained such serious injuries that he was sent to the nearest emergency hospital. Several days afterwards he was transferred to the Metropolitan Hospital as an "inoperable case." Examination of the patient showed the following: Apparently of foreign birth, spare build and not too well nourished, though speaking with some difficulty, he was sufficiently intelligent to explain his sensations. Further examination showed complete motor paraplegia and complete sensory paralysis, roughly corresponding to the parts below the lower dorsal region. Absent plantar, patellar and cremasteric reflexes on both sides, finger introduced into the rectum meets no resistance. Retention of urine is present, patient does not appreciate presence of urine in bladder. Stools are diarrhoeic and involuntary. On the dorsum from about second dorsal to third lumbar vertebræ there was an extensive ecchymosis and decided manipulation developed some preternatural mobility of at least one spinous process in that locality. Patient complained of constant pain in the back. In addition to sundry bruises there was a simple fracture of the left tibia. Heart sounds were normal, respiration slightly increased, liver dullness extended about one inch lower than usual. When catheterized the result would be about the normal quantity of urine mixed with an appreciable amount of blood, giving almost the color of claret, having a sp. gr. of 1.200 alkaline in reaction, albumen from the contained blood presumably, and some squamous epithelium, evidently from the bladder. Temperature 100°, pulse 86. Palpation shows some tenderness over right kidney, though not marked. No abdominal tenderness whatever. The above symptoms are described with some detail, because the best observers, Thorburn, Boatian, Herter, and later, Keen have held that "complete muscular paralysis of the parts below the level of the injury, complete anaesthesia below the level of the distribution of the injured nerve, with complete and permanent abolition of the knee-jerk and other deep reflexes indicate a transverse destructive lesion of the cord. If the lesion be only partially destructive, transversely, the paralysis and anaesthesia will be incomplete and the deep reflexes normal or exaggerated. Visceral reflexes, especially bladder and rectum, follow same rule as the deep reflexes. Keen states that the persistent absence of the reflexes, particularly the knee-jerk, leaves no question but that the cord is so completely destroyed that an operation would be unwise. Such a condition would, in his estimation, indicate either a cord absolutely divided or pulpified to such an extent as to render it incapable of further transmission of impulses. For actual destruction of the cord no procedure has thus far availed anything. Regeneration does not occur, resection with suture has been tried, but it has never succeeded, even in the experimental laboratory.

The case above described, in the opinions of the best observers, would be one in which there would be such

destruction of the spinal cord as to render it utterly hopeless from an operative standpoint. The writer some years ago, as a hospital interne, had seen three cases, either of them more promising for the outcome of an operation than this, yet such was the condition of surgery of this region that nothing more than a let-alone policy was adopted, with the result of more or less lingering and painful deaths in all three cases. So impressed were the histories of those cases upon the writer's mind that they remain unique. The emaciated frames, with the foul-smelling trophic bedsores, involuntary stools of cardaveric odor, etc., until it seemed that nature had selected one as example of how little life a man might have in his wasted frame and still be alive. It was decided to operate on our patient, which was done about five or six days after the reception of the injury. Ether was the anaesthetic chosen, though cocaine was duly considered. The patient was placed in Sims' position, with a sandbag under the abdomen, and a linear incision about five inches long made over the spines of the vertebra corresponding to the ecchymosis. Retractors were then used to draw back the flaps and muscles, separated from the arches of the vertebræ with a sharp, heavy knife. This is generally described as a difficult dissection, but it was very easy in this case. The posterior spinous ligament was divided transversely in two places and this allowed considerable mobility of spinous process, which seemed to be injured. The spine and transverse arch of the twelfth dorsal was crushed in, had torn the duramater, beneath which at this point was a large hæmatoma, the arch of the first lumbar vertebræ was fractured at its juncture with the body of the bone. The spines and arches of the twelfth dorsal and first lumbar were entirely removed with blood clot, fragments of bone, etc., edges rounded off and hemorrhage controlled with hot water. Wound was lightly packed with gauze and plaster of paris jacket applied from armpit below the hips. Patient stood the operation well, suffering only slightly from shock. Careful examination with fingers and probe failed to find any further injury to the bodies of the damaged vertebræ. [The reaction after the operation was slight and by the third day the evening temperature was 99°, at about which it remained, with only occasional fluctuations. By the twelfth day he had regained sensation in the legs, with return of deep reflexes and some ability to move uninjured leg. He was conscious of a desire to have a stool, the blood had disappeared from the urine and he knew when the bladder was distended. He seemed to be making very fair progress when his appetite began to fail and food was rejected by the stomach. The nausea and vomiting increased with the ejection of large quantities of altered blood from the stomach. [The diarrhoea began again and in about three days he sank and seemed to die of exhaustion. An autopsy was not permitted and it is difficult to say what was the exact cause of death.

The wound had granulated nicely and was in good condition.

The above case seems to be one of the exceptions to the rule, and taking into account the immense weight which was upon him at the time of the accident, he undoubtedly had other injuries, which were not revealed by our examination. Though the symptoms in the above case contraindicated an operation, so far as we can see now it proved a justifiable procedure and all things equal would have probably saved the patient. Abbe (*Medical Record*, March 3d, 1900) makes an observation that "if loss of motion and sensation below the

injured part is complete and instantaneous, and the patella reflex is lost, the outlook for recovery is almost hopeless." Yet such conditions were present in a case of a war correspondent, who was shot in the lumbar region. Dr. Abbe did a laminectomy, which was followed by recovery.

ANÆMIA, AND ITS RATIONAL TREATMENT.

BY W. E. HOLLAND, M.D., CHICAGO, ILL.

Consultant, Mary Thompson Hospital, Assistant Gynecologist, Illinois Medical College.

* * * From the standpoint of our present knowledge, there is no contesting the fact that in all forms of anæmia, iron, alone, or in combination with other recognized remedies, stands without a peer. The results accruing from its use, however, are in direct ratio to the assimilability of the preparation used.

The condition of the digestive organs during the administration of iron, and the consequent lack of power to utilize the remedy as ordinarily prepared, have presented a very discouraging prospect for the patient and disappointment to the physician, who finds that nearly all the chalybeate compounds can be tolerated but a short time—much shorter than is necessary for the accomplishment of the desired result, producing almost invariably loss of appetite, irritability of the stomach, obstinate constipation, headache, etc.

With an experience of some time in hospital as well as private practice, during which I have been fortunately or unfortunately blessed with an unusual number of complicated and apparently uncomplicated cases of anæmia, I have had the inclination and quite ample opportunity to test the various ferruginous simples and compounds as to their relative merits, and of all used preparations those of the solution of pepto-manganate of iron, for their acceptability, unirritating properties and relative efficacy, held deservedly undisputed sway and preference, until the preparation "Hemaboloids" was brought to my notice. Skeptical and slow to depart from well tried though not entirely satisfactory paths, I at last did experiment in a case that had resisted not only my efforts but those of a number of recognized therapeutists, and obtained unusually satisfactory results.

No irritation of the stomach, no anorexia, no constipation, no headache, but, on the contrary, increase of appetite, regularity of the bowels, increase in bodily weight and red blood count.

The following is a record of the most obstinate case treated, which may be regarded as a fair specimen result obtained in upwards of twenty-five cases.

This case was of particular interest since the patient presented an exceedingly unfavorable tubercular history, her mother being affected at the time and two sisters having died of the malady.

Treated with Hemaboloids after meals and at bedtime.

1st week, weight	157,	Hem.	57%	R. B. C.	2,900,000,	W. B. C.	8,500
2d "	158,	"	60%	" "	3,200,000,	" "	8,000
3d "	160,	"	64%	" "	3,800,000,	" "	8,000
4th "	163,	"	73%	" "	4,000,000,	" "	7,000
5th "	168,	"	78%	" "	4,300,000,	" "	6,500

Various preparations have from time to time been lauded for their effect upon the blood and the blood-making organs, and many of the old tried and new remedies have virtues of varying degree, and I have had a reasonable measure of success with all of them, but from the almost uniformly gratifying results from the use of the remedy just cited, it certainly has in my hands and from my experience been the remedy "par excellence" and well worthy of a trial in all those ob-

stinate forms of blood impoverishment which resist other recognized treatment.

In closing, let me further remark that in the treatment of these cases the necessity and benefit of carefully selected, concentrated diet, regularity of feeding, fresh air, salt baths and, last but not least, keeping the intestinal tract in an aseptic condition, must not be lost sight of.

RETROSPECTIVE DIETETICS.

Collodion in Pruritus Ani.—A hint in the treatment of this most distressing symptom is found, says *Experience*, in the suggestion to use collodion on the itching surface. Applied to a mucous membrane this substance causes considerable smarting, but this is readily obviated by first using a solution of cocaine. The collodion constricts the surface, and protects it from the air, and is said to be followed by immediate relief.

Castor Oil in Neuralgia.—At a meeting of the Chicago Academy of Medicine, held March 9, Dr. Harold N. Moyer read a paper on this subject, in which he said that during the last two years he has treated about fifteen cases of neuralgia by this method, but only seven of these patients were sufficiently long under observation to enable one to speak definitely of the results of the treatment. Some years ago Dr. A. J. Ochsner called his attention to the value of castor oil in the treatment of neuralgia, particularly of the fifth nerve. Five of the cases were neuralgias of the facial nerve and two were typical cases of brachial neuralgia. Of the cases of brachial neuralgia, one had lasted one week, and the other two weeks. The one of the shorter duration was exceedingly severe and had been under the care of a competent neurologist for more than a week. He was given a large dose of castor oil at 1 o'clock and by 4 o'clock the pain had largely decreased in the arm. The following night he rested well and next morning the pain had practically ceased. Three or four doses of the oil were taken afterward, and there was no return of the pain. An acute and recent case of neuralgia of the inferior dental nerve was cured in two weeks. Other forms of neuralgia were treated with the oil with satisfactory results. The oil is administered in the morning before breakfast and the dose is from one to two ounces.

Apomorphine as an Hypnotic.—Considerable experience with the use of this drug has induced C. J. Douglas (*N. Y. Med. Jour.*, March 17, 1900) to believe that there is no remedy so near an approach to an infallible hypnotic as apomorphine, and he has found it equally useful in all forms of insomnia regardless of the cause. It should be given in a single dose of about one-thirtieth of a grain, injected subcutaneously. The object is to give a dose that, on the one hand, is large enough to produce sleep, and on the other is so small that nausea and vomiting are avoided. Hence, individual susceptibility must be considered. It should be given when the patient is in bed, for its effect is very rapid and the patient will usually fall into a restful sleep within five to twenty-five minutes. If no results are observed within one-half hour the dose is too small. The effect persists for from one to two hours, but in many cases of insomnia the patient will sleep all night. In active delirium it acts very well, and a slight nausea may increase the effect in those cases. There is no possibility of a "drug habit," for it becomes a vigorous emetic if the dose is increased.

Neuroses of the Menopause Caused by Intestinal Fermentation.—Aldrich (*Ann. Gyn. and Ped.; Med. Standard*) believes that the doctrine that the menopause

is a sexual and physical decrepitude is a misleading one and not founded on fact. It belongs to the age of invigoration when a process of equilibrium is being established in the vital organs, the tissues becoming more condensed and less active. Nevertheless the habits of a lifetime are not abandoned; the digestive organs are plied with an excess of rich food no longer needed to meet necessities of development and more than is needed to repair the tissues. The atrophying muscles of the digestive tract are unable to hurry on the mixed products of indigestion and fermentation, and micro-organisms multiply and elaborate toxic alkaloids to disorder the functions. The result is a series of nervous disorders which are almost invariably charged to the climacteric.

The inactive, sluggish musculature of the intestine is most at fault and easiest remedied. A combination of beta-naphthol, salicylate of bismuth and vegetable charcoal has been used, and careful observation has convinced the author that we possess no remedies with wider efficiency as intestinal antiseptics.

Silver Leaf Dressing for Surgical Wounds.—Johns Hopkins Hospital first used "silver leaf dressing" for burns, Bellevue Hospital has followed suit, and both report excellent results, says the *Medical World*. The lesion is covered with silver leaf, without addition of adhesive material. It is reported as an excellent protective dressing which may be painlessly removed and renewed. It is said to prevent shock. It has been used in the Albany Hospital for dressing laparotomy wounds. The leaf is merely followed by the retaining gauze bandage. Its cheapness, ease of manipulation, reputed advantages, and curtailment of "technique" would seem to commend it to the thorough trial of surgeons.

The Phenomenon of Pain.—As a result of some experiments on the phenomenon of pain, made by Arthur McDonald, of the United States Bureau of Education, by means of a "temple algometer" (*Jrnl. A. M. A.*), he finds that in general pain decreases as age increases; the left temple is more sensitive than the right; as is also the left hand over the right. There is an increased obtuseness to pain between the ages of 10 and 11, a decrease from 11 to 12, an increase from 12 to 13; from 13 to 17, while the right temple increases in obtuseness, the left temple increases in acuteness. Girls in private schools, who have wealthy parents, are more sensitive to pain than girls in the public schools whose parents are not wealthy and who are accustomed to work. University women are more sensitive to pain than are washerwomen, but less so than business women. There seems to be no necessary relation between intellectual development and pain sensitiveness, and an obtuseness to it seems to be due more to hardness in early life. To summarize, acuteness to the sensitiveness to pain is greatest with girls of the wealthy classes, then with self-educated women, then with business women, then with university women, and, lastly, with washerwomen.

RETROSPECTIVE THROAT WORK.

BY T. M. STRONG, M.D., BOSTON, MASS.

Adenoid Vegetation.—Danziger (Abstract, *Jour. Eye, Ear and Throat Diseases*), recognizes several classes of cases differing from each other in etiology, symptomatology, etc. Adenoid vegetations occur most often in the first decade of life, rarer in later years. The former are divided into two classes: I. Children of a few months of age. Begins as an acute coryza, which, in little children, may leave a permanent swelling of the pharyngeal tonsil. In older children coryza re-

curs, and this is the commonest cause of adenoid vegetations. The pharyngeal tonsil looks swollen and cedematous. This swollen condition of the tonsil may be the principal symptom of some infectious disease (measles, scarlatina), or they may serve as portals of entrance for the infectious material. Children with hypertrophied pharyngeal tonsils are much more subject to the aural complications of these infectious diseases. 2. In a second group of the same age they play a passive role. The symptoms appear slowly and insidiously, until the syndrome we term the *aditus habitus* is established. Often the symptoms cause so little annoyance they go unnoticed. The disease often affects several brothers or sisters, or we find residua in the parents or adult relatives. In this group we find malformations of several kinds, ceptoprosopia, anomalous teeth, jaws, etc., due to malformation of the base of the skull. The ear may also be involved in this defective development. A child having adenoids and such anomalies, when attacked by measles or scarlatina, is more apt to have ear complications and severer ones than one with adenoids alone. The prognosis is more doubtful in these cases, for even when the growth is removed a defective development of the ear may prevent a restoration of hearing. A *third class* belongs to the second decade of life, and consists largely of the female sex. The symptoms, minimal by day, become more intense at night, i. e., in the horizontal position. The tumor is compressible on pressure, and can best be appreciated by posterior rhinoscopy, and upon removal it is found to consist of a mucous sac with several compartments. [The time of appearance and greater involvement of women would indicate some connection with the onset of puberty, which affects the female much more than the male organism.]

The Tonsils as Portals of Infection.—Emil Mayer (*Jour. Amer. Med. Assoc.*, Dec. 2d, '99) says that certain forms of infectious diseases follow closely on tonsillar affections is an established fact, but some facts in connection therewith have not as yet received due consideration. The study of this etiology becomes of vital interest in the important work of preventive medicine. [The solid tissue of the tonsils is not apt to be liable to infection unless there is some denudation of the epithelium. The crypts, however, are very ready to assume the infection since the epithelium within them is frequently destroyed. Some have claimed that the supratonsillar fossa is the important point from which infection takes place. Goodale showed that colors rubbed into the hypertrophied tonsils are taken up by the interfollicular spaces, and not by the follicles. In a fatal case of tonsillar abscess the autopsy showed a number of small abscess cavities with thick walls, in the deeper portion of the tonsil, while the anterior and posterior mediastinum and the pleura contained pus. In two cases of peritonsillar abscess it was found that the discharge of the pus had been into the efferent lymph channels. The importance of this lesion is obvious when we remember that acute pyogenic infection of the follicles might lead to pyemia. The writer thinks that pericarditis following tonsillitis is septic rather than rheumatic. The question of the connection between rheumatism and tonsillar affections is still an open one. Cobb, in a study of 44 cases of tonsillar abscesses, denies the causative relationship. Other writers trace more or less directly a connection. One because he finds the same organism in the joint as in the throat, another found a case of recurrent rheumatism always beginning with tonsillitis. Prompt treatment of the latter always

obviating the former. The liability of the tonsil to give entrance to severe general infection was of importance. De Rockmont mentions albuminuria, erythema, urticaria, purpura, erysipelas, orchitis, oophoritis, pleuropneumonia, as having been observed in connection with tonsillar infection. Others have found these tonsillar affections to be the commencement of pyemic septic diseases. He thinks the attempt to prove the connection between rheumatism and tonsillar troubles, because the same pyogenic cocci is found in each condition, should be carefully considered, since the same cocci are found in normal mouths.

Angina pectoris is also said to be a sequela, being a neuralgia of the cardiac plexus, occasioned by toxins introduced through the tonsils. Others have mentioned phlebitis of the legs, septic pneumonia, purulent pleuritis with fatal results. Turner says that the tonsils have for a long time been considered the point of infection for tuberculosis, but in his experiments only 20 per cent. responded to histological tests, while 20 per cent. showed tuberculosis bacteriologically. Otitis media and intracranial complications have frequently been traced to tonsillar infection. Several cases of endocarditis are quoted, some of them verified by autopsies. The conclusions were: 1. That infection may arise from the tonsil. 2. Tonsillar affections are frequently serious in their sequelæ and every step to prevent recurrence of the attacks should be taken. 3. The existing tonsillar disease should be energetically treated. 4. Careful examination and treatment are absolutely essential in the interim. 5. Following anginas, the heart and other organs should be examined from time to time.

Dr. F. A. Packard, in the Wesley M. Carpenter Lecture (Phila. Med. Jour.), on "Infection Through the Tonsils, Especially in Connection with Acute Articular Rheumatism," after an exhaustive study of the subject summarizes as follows:

1. The tonsils are active and useful organs whose functions it is to offer a barrier to the entrance of organisms into the deeper tissues at a point which by its location and construction is very open to infection.
2. The tonsils act in this respect as do other lymphadenoid tissues in the body, as is best exemplified by the lymphatic glands.
3. That during the course of or following tonsillitis we may have occurring most of the important complications of typical acute articular rheumatism.
4. That acute articular rheumatism is an infectious disease, dependent possibly upon no one organism, but upon a variety of bacteria.
5. That the phenomena of rheumatism can be accounted for by toxin-absorption.
6. That the toxin causing rheumatism may be produced by an attenuated microorganism.
7. That it is possible that the frequent entrance of the microorganism by way of the throat may explain the fact that we have acute articular rheumatism developing after an invasion of the throat rather than the ordinary septicemia or pyemia, for the reason that just beyond the port of entry there is situated a collection of lymphadenoid tissue capable of restraining the growth and virulence of microorganisms attacking the membrane which it protects.
8. That the terms rheumatic pleurisy, rheumatic purpura, rheumatic erythema, and rheumatic sore throat should be used with less freedom, and that it would be more correct to look upon them as the result of infection, whether accompanied or not by articular phenomena, rather than as latent, aborted, or incom-

plete forms of a condition produced by an unknown, mysterious and intangible rheumatic poison.

The Etiology of Acute Inflammation of the Tonsils—Hilbert (Abstract. Laryngoscope) says there are two great classes of the forms of tonsillitis. The one class seems to have an independent existence, and is, therefore, idiopathic. Those of the second class either form the principal symptoms of a specific infectious disease, as in diphtheria, or they form the initial symptoms of such diseases as measles, scarlatina and the like. It is obvious that these inflammations are caused by the specific germ of the disease which they accompany and are not considered by him.

The first class may be separated into two subdivisions, those caused by "taking cold," and like processes and the infectious form. While it was not possible to explain just what was meant by "taking cold," there was no doubt that inflammations do arise from this cause. This left the infectious subdivision to be considered, and as various authors have attributed them to the different microorganisms found on the inflamed tonsils, especially the streptococcus, Hilbert made a study of the oral cavities of healthy persons and found the streptococcus so universally present that he was unwilling to concede its etiological relation to tonsillitis. He regards their presence in the deposits of inflamed tonsils as secondary and accidental, but thinks, however, that they flourish in these deposits and may find a way through the inflamed tonsils into the circulation, and thus give rise to a general infection. In connection with this almost universal presence of streptococci in the oral cavity, he draws attention to Flügge's assertion that in speaking, coughing and sneezing a cloud of finest watery spray is driven from the mouth, which should be borne in mind by operators as a possible source of infection in abdominal operations, etc.

OBITUARY.

Dr. Paul Gibier, founder of the American Pasteur Institute, prominent in the scientific world, died May 10th, from injuries received in being thrown from his carriage, in the fiftieth year of his age.

He was sent by the French government in 1888 to study the yellow fever in Havana. He came to this city in 1889, and in the following year established here an institute for the treatment of hydrophobia, following the method discovered by Dr. Pasteur, with whom Dr. Gibier was associated for several years. Dr. Gibier two years ago purchased at Suffern the extensive estate on which he built his sanitarium for the treatment of tuberculosis and other diseases of the lungs.

Dr. Gibier had studied and written extensively on yellow fever, cholera, epilepsy and consumption. He was one of the founders of the Bacteriological Society of New York, and was regarded in his profession as an authority on bacteriological subjects. His achievements in his profession had won for him the cross of the Legion of Honor and other tokens of recognition from the French government.

From researches in hypnotism, hypno-magnetism and psychic experiment he reached the conclusion that in their manifestations are found absolute proofs of immortality, in that they prove, as he held, that intelligence exists apart from matter. His views on this subject attracted considerable stir in the scientific world.

Dr. Gibier leaves a widow and a nephew in this country, and a mother and a sister in France. The nephew, Dr. George G. Rambaud, will probably succeed Dr. Gibier as the head of the Pasteur Institute.

NEWER TREATMENT.

Chronic Bright's Disease.—The next patient I bring in is a house patient. I do not wish to detain her longer than necessary. She is forty years of age, married, and was admitted the 22d of March. We could get no family history from her. She was sick for twelve days, when she had been drinking freely for some time. On the skin of her back there are several large bruises, as from falls or injuries or from throwing herself around the bed. There is marked œdema of the lower extremities and hands. She has pain in her right side, with difficulty in breathing. You notice a pitting on pressure of the thoracic wall. She is very stupid and is not able to tell us about the case. The urine contained large quantities of albumin, over one per cent.; no sugar; there was pus, and micro-organisms and casts. There was marked dulness over the chest posteriorly.

She has improved somewhat under treatment. She is more rational than she was yesterday. Notice the large herpetic eruption over the lips and nose. The bruises over the back you will see are quite extensive. Here is a marked flatness on percussion extending to the lower angle of the scapula. The breath sounds are almost absolutely silent here. It indicates the presence of fluid in the right chest. The urine shows Bright's disease, which is probably chronic. The albumin is more abundant here than it is in chronic Bright's until it reaches a very advanced stage. Another point: I noticed an indication of uræmia in the inequality of her pupils. Both are dilated, the left more than the right. It would be very easy for an ophthalmologist to examine the eye grounds without the use of atropia.

I said she had been improved under the treatment, and she has been. Her breath is horribly fetid. I might also tell you as an indication of her semi-comatose condition that she had passed her feces involuntarily. The specific gravity of the urine was low, .1010; the urea varied from 1-10% to 8-10%. The pus has no bearing on the condition; it may be due to some leucorrhœal condition.

She had a hot-air bath for forty minutes on the 22d. She slept twenty-five minutes immediately after. She was given a purgative of gr. iij calomel, and infusion of digitalis, f3ij every two hours. On the 23d the dose of calomel was gr. v, and the bowels moved several times after that. She has the hot bath daily, and 1-120 gr. hyoscine hydrobromate repeated every evening; strichnine and whiskey every three hours. The bed-sore is not much beyond the stage of erythema.

I consider the inequality of the pupils an alarming symptom. When I have seen it, it has been almost inevitably fatal, especially when both pupils were dilated. The cause of the dilatation is not known. The left pupil is decidedly larger than the right. You ought to make sure always that there is not a synechia; here it seems to me there is nothing of the sort.

Now there are other poisons which may give rise to the condition. In health there are leucomaine produced in the body and a part of these go out through the intestine, a part are destroyed in the liver and a third part are excreted by the kidney. The kidney may be in such a condition that it cannot excrete these. Whatever the poison is, it is not urea—urea is not poisonous. A case such as this has been treated with an injection of urea under the skin, because it is a diuretic.

I would continue the daily hot baths, and purgation with saline purgatives. If she is much excited I would

use chloral, but I would not use opium or morphine, as some great authorities have advised. In chronic Bright's disease I do not see the advantage of using it at all when chloral is of such benefit.

If this pleuritic condition advances I would use a hypodermic needle and see if there is fluid and I would remove it. I see no advantage in doing it now.

There is another method. I would bleed her if she has a relapse. It relieves the congestion of the brain and does good. I would advise a blister at the back of the neck also.

Treatment of Colley's Fracture.—This boy is ten years of age; he fell on his arm three days ago and sustained an injury to his wrist. This was reduced, and later when the splint was removed for a skiagraph the deformity recurred. It is a fracture of the lower end of the radius, a typical Colley's fracture. We have it here on a curved palmar splint, a very good one. We must anesthetize him in order to make a proper reduction. The case is very instructive. These fractures usually fall into the hands of the physician instead of the surgeon. It is scarcely fair to the general practitioner to be compelled to undertake the treatment of fractures unless he is seeing them constantly.

The kind of splint to put on is the kind you can use with best results. My own preference is for the Bond splint, with the block not quite so high as it used to be and the angle of deflection not so great. The leather splint is largely used, I know, but I could never get such good results as with other fixtures. Others that are used to it can get the good results, and, as I say, the splint to use is the one you can use the best.

The method of reduction ordinarily used is to hold the patient's hand in one hand and press down with the other; or by putting it across the knee, pressing and pushing the bones into place with the thumbs. The method I prefer is to take the patient's hand at the sides in both of yours, with the thumb placed parallel on the broken fragment, then, taking a firm grip, make powerful pressure downward with the thumbs, while pulling toward you. Reduction is almost always perfect and complete. If it doesn't go in at the first attempt without etherization, etherize and try again, for it is too painful to repeat.

We use the old-fashioned dressing. Put a pad under the upper fragment and another over the lower fragment. Raise the elbow to a right angle to get the widest interosseal separation. Put on the bandage not too tight. Dress at least every other day and put the parts through their range of motion.

Brachial Neuritis.—Four weeks ago this woman fell and dislocated her left elbow, which was reduced at once. She has pain in the fingers and elbow, only partial supination and pronation. After the fall she had a tingling down the hand, along the upper surfaces of the thumb and forefinger. The pain keeps her awake and makes her miserable.

At the elbow there is œdema and blood clot, a good deal of ecchymosis. The olecranon is tender, but there is no evidence of fracture. Above the joint there is stiffness and pain, over the musculo-spiral there is evident tenderness. We find there is no friction in the joint, no evidence of fracture, but the nerves of the whole brachial distribution are very tender. It is a question how she got this neuritis. It begins just at the middle of the arm, where the musculo-spiral is thrown off. I am inclined to think that the arm was wrenched and the nerve

stretched. It is more probable than that it results from a blow. We shall call it a case of brachial neuritis.

I believe the treatment for her is massage. Little fly-blisters along those nerve trunks may be a help, especially above the elbow; and the use of the descending galvanic current. Internally I would put her on a grain or two of iodide of potash two or three times a day, or salicylate of quinine. The little fly-blisters are useful. Freezing along the nerve trunks gives relief that may last for a few hours, it seems to act as a counter-irritant.

—Adenoids. A number of articles have appeared recently treating of adenoids and their effects upon the health of the child, both in the general medical and special journals, undoubtedly inspired by the rapidly accumulating data as to the value of prompt detection and efficient treatment. The family physician must learn to be suspicious of the condition, if not able positively to detect and treat it. The results of successful treatment are so startling to patient, parent and physician as to be almost beyond belief. Too much cannot be said, therefore, in calling attention again and again to the snuffling, mouth breathing, dull and stupid child, and strenuously insisting upon thorough treatment. By thorough we mean surgical measures, for reliance on internal medication alone is culpable. While it may be true that the tendency to these growths is towards atrophy, the converse is more uniformly true, that the pathologic effects set up are permanent. It is not, however, an unusual thing to find the hypertrophied pharyngeal tonsil in youths and adults, and a cause of the persistent nasal dropping and audible "hem," conditions which promptly disappear with the removal of the enlargement.—(T. M. S.)

—Intubation in Private Practice. J. Trumpp writes this paper (Laryngoscope) for the discussion of the question whether intubation is justifiable in private practice where continuous medical supervision cannot be exercised. Reports from eighty-nine European and American physicians are given relating to 5,468 intubations with 36 per cent. of cures in the pre-serum period, and 81.98 per cent. when used in connection with serum. Only 13 cases of death by accident were reported—namely, two from obstruction of the tube, ten cases of auto-extubation, and one case of suddenly recurring stenosis after extubation. This seems to show that the operation in private houses may be justifiable, and the author gives (Münch. Med. Woch.) a long list of conditions under which obstruction of the tube and auto-extubation may occur. His final conclusions are as follows:

1. Every physician in general practice should strive to perfect himself in the technique of intubation as well as tracheotomy.
2. Intubation is unequivocally demanded when there is immediate danger of suffocation and there is no time for tracheotomy; also if permission for the latter is refused.
3. The physician is justified in performing intubation at a private house and without permanent medical supervision: A. If the patient cannot be moved to a hospital. B. If the relatives decide in favor of intubation after the comparative advantages and dangers of tracheotomy and intubation have been explained to them. C. If communication between the house and the physician is easy and the latter can reach the house

within an hour of any accident. D. If all other precautions for the safety of the patient have been taken.

4. Intubation in private practice should be an early operation whenever possible, inasmuch as the results are the best where the patient's strength is still only slightly impaired and the local process not greatly developed.

5. Inasmuch as tracheotomy presents so many more difficulties than intubation in private practice, it should only replace the endolaryngeal method when the above-mentioned conditions cannot be complied with, or when intubation has failed to relieve, or where the presence of the tube has given rise to ulceration, or where the tube is repeatedly coughed up.

—"Osteopathy has at last invaded the metropolis," says the *Medical Record*. "The first practitioner to make himself known here is out in a circular telling of the many things he is capable of accomplishing. It begins: 'I, as an osteopathist, do not advocate the use of drugs.' He appeals to the medical profession to send him cases. The strange part of it is that some of its members will. However, he would get them anyway."

—After the next Fourth of July there are likely to be fewer cases of tetanus having the toy pistol as their primary etiological factor, as Governor Roosevelt has signed a bill which makes it a misdemeanor to sell or give a toy pistol in which blank cartridges are used to a person under sixteen years of age.

—In place of sutures for closing skin incisions, Wachsmann has recommended and used a double-pointed tack, similar to those used for nailing down matting. These tacks are made about one-fourth of an inch long, the points are bent slightly inward, to prevent their coming out, and they are nickel-plated so as to be easily sterilized. They can be applied in one-fourth of the time required for sutures, and can be left in the tissue ten days, if necessary.

—According to the press dispatches, Congressman Boutelle, of Maine, who has been in a sanitarium for several months, was renominated on the statement of his physician that such action might effect a cure, whereas failure to secure a renomination would probably kill him.

—Corks that have been steeped in vaseline are an excellent substitute for glass stoppers, according to the *National Druggist*. They have all the utilities of the glass without its disadvantages.

—At an inquest recently held in Belfast, Ireland, the coroner remarked that the post-mortem examination had been made very satisfactorily by Dr. Harriet Niel, and that this was the first instance on record in the country of such a public duty having been discharged by a woman.

—At a recent meeting of the New York County Medical Society, Dr. Walker said in discussion that he had been informed by the dean of a prominent medical college that only one out of every five medical men who graduate succeeds in making a living exclusively from his profession.

—According to the *Philadelphia Medical Journal*, a citizen of Williamsburg, who engaged in a street fight and received a stab wound in the abdomen, was found, on removal to the hospital, to have appendicitis, and the wound offered direct and easy access to the appendix, which was removed. The patient is now in a benevolent frame of mind towards his assailant.

Diet in Asthma.—Chronic asthmatics—that is, those in whom the attacks have recurred for some months or years—are frequently the subjects of indigestion of food, as shown in the symptoms of weight and discomfort after food, and flatulence (Sidney Martin). This is sometimes the result of over-drugging. In the cases of peptic asthma, the regular attacks of the disease occur in the day, and are associated with indigestion of food. The regulation of the diet of asthmatic patients is of great importance: Meals ought to consist only of digestible food, and that in moderate quantity, no heavy late meals being allowed. Remedies such as alkalies after meals, given with a view of correcting the indigestion, combined with a proper diet, give great relief to cases of peptic asthma. Although the asthmatic ought to be careful as regards the food taken, it is wrong treatment to starve such a patient; only harm can come of it, inasmuch as the best chance of the patient recovering is an improvement of his general health, and this cannot occur without a sufficiency of food. It is for this reason, doubtless, that cod-liver oil does so much good in some cases when every remedy seems to have failed. The improvement if the oil can be taken is sometimes very marked, rendering possible the diminution, or even cessation, of the inhalations which the patient considered his sheet-anchor.

Infant Feeding.—It is quite safe to predict, says Henry Koplik, in the *Medical News* for June 22, 1899, that an infant, if it has the breast only once or twice in the course of twenty-four hours, will thrive on the bottle much better than on the bottle alone. It is not advisable to deprive the infant of the mother's breast, no matter how scant the secretion of the breast may be. It is very difficult to decide how much cow's milk should be given such infants, because it is impracticable to measure the amount of milk secreted by the breast in question. An observant mother and physician will soon find out, however, how much additional milk should be given in any case.

Phenylhydrazin Test for Sugar.—Dr. Cordiat (*Boston Med. and Surg. Journ.*, Nov., 1899) has found, after much experience, that by means of phenylhydrazin we can detect sugar in the urine, if it be present in 0.0,001 per cent. This is, as we know, too small a quantity to be of any clinical importance. The process is as follows: Take 25 Cc. of urine in a beaker, add 1 Gm. of phenylhydrazin and 2 Gms. of acetate of sodium; heat in a water bath from thirty minutes to an hour; then cool and with a pipette take up a small amount of the lowest part of the precipitate, place on a slide and examine under a microscope. The long, needle-like characteristic crystals are phenylglucosazon. The advantages of this test are: (1) albumin need not be removed. (2) It is possible to recognize any of the sugars by their crystalline forms. (3) Substances which interfere with Fehling's or Nylander's test, do not in any way affect the phenylhydrazin test. (4) It is an extremely delicate one, and of undoubted accuracy.

Cannabis Indica.—Dixon (*Br. Med. Journ.*, Nov. 11, 1899; *Phila. Med. Journ.*) concludes an article on the pharmacy of cannabis indica, as follows: The drug exerts its effect differently according to the preparation used. Its effects vary according to the manner in which it is taken into the system. When smoked, exhilaration is most manifest, whilst when taken into the mouth in small quantities this is generally not observed. Where

an immediate effect is desired the drug should be smoked, the fumes being drawn through water. In fits of depression, mental fatigue, nervous headache and exhaustion, a few inhalations produce an almost immediate effect, all the symptoms quickly disappearing. Its results are marvelous in giving staying power and altering the feelings of muscular fatigue which follow hard physical labor. By the mouth, one hour to two hours are necessary before absorption occurs, but the effects are more lasting than when it is inhaled. The hemp when taken as an inhalation may be placed in the same category as coffee, tea and kola. It is not dangerous, and its effects are never alarming. It is a useful and refreshing stimulant and food accessory, and its use does not lead to a habit. Used by the mouth it should be classified with the narcotics, and used in this way the nervous effects produced may be such as to cause serious alarm, yet no danger is to be apprehended whilst the heart remains strong and regular.

Wet and Dry Surgical Dressings.—R. M. Skilern (*Phila. Med. Journ.*, May 30, 1899) compares the efficiency of wet and dry surgical dressings:

1. A dry dressing is superior to a wet one in incised wounds.
2. In contused and lacerated wounds a wet dressing should be employed for a week or two, followed by a dry one.
3. In carbuncles, boils and infected wounds a wet dressing is indicated.
4. When pus has burrowed and sinuses exist, packing and a dry dressing are preferable.
5. In deep punctured wounds with a small orifice, a wet dressing is best.
6. In all wounds of the scalp, whether infected or not, we should use a dry dressing.

Chloroform and Strychnine Poisoning.—Dr. Robert Barnes, in a letter to the *Lancet* (*N. A. Journ. of Hom.*), commenting on a recent murder by strychnine, has some valuable remarks to make on strychnine poisoning. He says that when associated with Marshall Hall he assisted in some experiments on frogs. Strychnine was injected subcutaneously. If left in a state of perfect quiescence no convulsion occurred and the frog recovered. But if the frog was disturbed, even by shaking the table on which he rested, he was thrown into repeated convulsions and died. The lesson drawn from this was obvious. The sufferer from strychnine poisoning must be kept absolutely quiescent. The writer had a chance to test this. An army officer took a grain of strychnine in solution and was seized with convulsions. Dr. Barnes immediately put the patient under chloroform and kept him absolutely quiet all night in that way. By the next day the poison had been eliminated and the patient recovered. Dr. Barnes recommends this treatment for other forms of convulsions as well. He believes that the repeated shocks to the nervous centers in convulsions is a main factor in causing death. In the albuminuric convulsions of pregnant women he controls the spasms with chloroform, and frequently with good results.

Bartholow says that chloroform and ether, by inhalation, are both true physiological antidotes to strychnine. This fact may be of service in threatened death from the anesthetic on the operating-table. A loaded hypodermic of strychnine should therefore be one of the things at hand whenever a patient is to be put under a general anesthetic.

MISCELLANY.

—Sir James Paget, the famous English surgeon and pathologist, died in London on December 30, aged eighty-six years.

—Cleveland has an Appendicitis Club, to be eligible to which it is necessary to have a surgeon's certificate that the applicant has undergone an operation for that disease.

—By the will of Caroline Brewer Croft a sum amounting to nearly \$100,000 has been placed in the hands of the Corporation of Harvard University, to be used in the investigation of cancer.

—The Hungarian Government has issued a decree regarding ritual circumcision, placing the operation under medical supervision, and insuring that it shall be performed under the rules of surgical antisepsis.

—It would appear from statistical statements in the New Hampshire Sanitary Bulletin for Jan. (*J.A.M.A.*), that the people in that State are becoming immune to consumption, or that the disease is in some way or other losing its virulence there.

—A four-year-old boy died recently on an Atlantic steamer just after it reached the pier in this city, and the ship's physician attributed the death to exhaustion following seasickness, from which the child suffered severely during the entire voyage.

—A case of divorce was reported last month from Clinton, Mass., where the wife was a believer in Christian Science. She sued for \$1,000 and separate maintenance. The Judge refused alimony and placed the children in the custody of the father.

—According to the *Lancet*, Lord Curzon, the Viceroy of India, and the whole of his party were inoculated against plague before leaving Simla on their recent tour of inspection—a course which he cordially commended to all placed in a similar position.

—According to the *Gazette méd.*, Paris is on the point of bestowing on a certain street the name of Eugene Bouchut, in honor of his invention of intubation of the larynx. Fancy the corporation of New York naming a street after Dr. O'Dwyer.

—The oldest person in the State of Massachusetts is said to be James J. Cavanaugh, who lives in Watertown. He is reported to have passed his one hundred and ninth year in the possession of his faculties, with the exception of a considerable degree of deafness.

—Nitroglycerin, according to Marshall (*Lancet*, Nov. 4, 1899), is serviceable only in diseases connected with actual or relative spasm of unstriated muscular fiber. In pneumonia and other respiratory diseases there seems to be no rational basis for its use.

—Meyer Guggenheim and his sons have given \$200,000 to Mount Sinai Hospital. The money is to be used to erect a hospital building as a memorial to the deceased wife and mother of its donors. The structure will be set apart solely for private patients.

—The oldest member of the medical profession in England, Dr. Swinson by name (*Phila. Med. Jnl.*), who, though qualified, had never practised, because of his delicate health, died on New Year's Day, a few weeks before completing the hundredth year of his age.

—Tarantulas are being raised in Australia for the sake of their webs, the filaments of which are made into thread for balloons. They are lighter than silk, and, when woven, lighter than canvas. Each tarantula yields from twenty to forty yards of filament, of which eight twisted together form a single thread.

—According to Williams (*Med. News*), the process of scarlatinal desquamation can be shortened by three or more days by means of regular inunctions of a mixture containing one part glycerin and nine parts peroxide of hydrogen in fifteen-volume solution, acidulated with 1 per cent. hydrochloric acid. The entire body, except the scalp, is to be rubbed regularly with this mixture from the beginning of desquamation.

—The Second International Congress of Experimental and Therapeutic Hypnotism is to be held this year in Paris, August 12 to 15. The acting president will be Dr. Jules Voisin. A number of well-known authorities on the subject of hypnotism have expressed their willingness to be present and read papers. Those who contemplate attending the meeting are asked to communicate with Dr. Berillon, 17 Rue des Beaux Arts, Paris.

—The Belgian Government has issued a circular to all municipal authorities urging them to use apparatus for the sterilization of meat from tuberculous cattle without extensive lesions. The meat, which after subjection to the sterilizing process is said to be harmless, is sold for fifty centimes per kilo. Part of the money thus received is applied to defraying the cost of sterilization, and the remainder is added to the indemnity paid by the Government to the owners of condemned animals.

W. L. Conklin (*Buffalo Med Jour.*, Feb., 1900) examined six clinical thermometers for bacteria. Four had been washed out but not sterilized. Micro-organisms of one or another variety were found on each of the four. Two had been washed and then placed in a case containing bichloride solution. No micro-organisms were found on either. The author urges the necessity of a more thorough cleansing of thermometers, and describes the case, which he fills with a 1 : 500 or 1 : 250 bichloride solution, in which he keeps his thermometer.

—The *Sei I Kwai Medical Journal* of Tokyo for December 31 contains the following interesting announcement: "Fleet-Surgeon T. Yabe, of the Imperial Japanese Navy, who is now studying bacteriology in the Pasteur Institute, Paris, discovered how to make human subjects immune from the tubercular disease with some material which he calls tuberculo-immunitine. We heartily congratulate his success for such great and difficult subject, which was considered almost impossible to achieve among the eminent authorities in Europe and America."

—It is understood (*Jrnl. A. M. A.*) that a board of medical officers convened to investigate the merits of the Woodbridge treatment of typhoid fever, as carried out at the Fort Myer General Hospital during the war with Spain by Dr. Woodbridge himself, then major and surgeon, United States Volunteers, finds a mortality of about ten per cent. of all cases treated by the Woodbridge method and about seven per cent. of all cases treated by other methods. In all, about 600 cases of typhoid were treated at the Fort Myer Hospital; of these 57 were treated by Dr. Woodbridge, who was afforded every facility in the application of his treatment.

ORIGINAL ARTICLES.

DOES THE BRAIN THINK?

BY H. GASSER, M.D., PLATTEVILLE, WIS.

THE existence of our established system of education is demonstrative and conclusive evidence that we can strengthen and develop the function of the brain by orderly and well regulated exercise into a more coherent, enduring and well regulated system. This is the prime purpose of education. It is the physiological and psychological organization of the functions of the brain as well as the body into an enduring and healthful existence. It is thus an economizing of the crude forces of life as we receive them from our ancestors.

By this organized and established system of education we positively recognize that our ancestral heredity is still a very plastic quantity that is readily moulded by the influences with which it is surrounded.

As parents, with the inherent love for our progeny and our personal experience in life we have come naturally into the belief that our children should come in contact as much as possible and associate only with the forces that are good.

This is why we have built up our system of education.

It is along the lines of least resistance, most enduring development, and in harmony with all the constructive forces of the scheme of creation, but with its specialized economy whereby it becomes not only directive, selective and responsible, but creative in our own conscious experiences whereby we are capable of measuring and weighing them and which in general we call thinking.

Thinking as viewed from the theory of the circulation in the nervous system, and in harmony with the established practices of our social life as here briefly formulated, must be a related phenomena of its functional activity, a coherent part of it. Yet thinking is not the circulation in the nervous system, neither is it brain or a special sensation.

Thinking is a distinctly organized epi-phenomenon, the terms of which are and always must be the court of last resort. It is our knowledge of the forces of nature. In this field we cannot go behind the returns. If we act wisely, endurance, happiness and health is our reward. If otherwise, discomfort, disease, pain and death is the reward. In this field there is neither mercy nor favor, but always equity in harmony with the law, order and system of the constructive scheme of creation or development.

While there is relation and interdependence between the constructive material architecture of nature and our thinking, organized and conscious existence of which it is a part, nevertheless it is distinct and characteristic. Our conscious life is an organized unity, a world within itself, the terms of which are lost in its very being; while the brain, with its related bodily organization and function, is resolved into the clay of the material architecture out of which it was woven, but never transcended. It is clay still. This is why thinking, with its system of organized conscious life, is not brain or circulating nervous energy. Consciousness is that epi-phenomenon that weaves all the multitudinous sensations and functions of the body into an organized and related unity of existence whereby it becomes a responsible, directive and creative existence and is thus in contradiction to the blind but constructive forces of

the world of phenomena. The one is the unity, the other the chaos of nature.

"After we have mapped out the brain to the extent of our ability," says Halleck, "there yet remains the larger portion to which we can assign no definite function of any kind. Imagination, thought, emotion and will have never been localized. No one has ever made it clear how mere brain cells can imagine or think. If we are to locate memory, thought and feeling at all, we must say that the entire brain is their organ. The spinal cord is certainly an organ of reflex memory. Thought must use the data supplied by all the senses localized in different parts of the brain. We have seen that the physical basis for the memory of sight is in the occipital lobe; of hearing, in the temporal; of smell and taste, probably in the gyrus hippocampus; of touch and general sensibility, in different part of the brain; of motion, in various areas. When asked in what part of the brain memory is located, the proper reply is, memory of what? Of sight, sound or some other senses, or of the motor function?"

This question and answer in the light of our present knowledge and so ably and clearly set forth in the above quotation, although it has the appearance of definiteness and finality, does not in all its relations answer it comprehensively. While it clearly states the physical basis of organized memory when it interprets the functional activity of it in terms of thought, feeling and volition as distinct and separate entities that have no relation whatever with the organized material memory that gave it existence, he falls into that common error that has pervaded mankind generally even to the present time. We know the memory of sight or sound only in its relation with all the organized sensations as a whole.

That we may better comprehend this problem it will be necessary to first fully understand the term we call "memory," its physical basis and psychological existence and the relation between them. This does not imply that there are two kinds of memories, physical and unconscious and conscious memories, although it is from this dual yet obscure conception this question was asked and the answer given.

Memory is the functional activity of the organism, its reaction on the forces of its environment. It is not the material organism, but its activity. The dead body of a man is only the material organization, the result of the constructive activity, the fossil of the once active memories. Memory is a continuous activity "beginning in an ovule and coming round to an ovule again." It is the material and organized function of the body in general, and the brain in particular, that determines the action or develops the memories. Memory is that activity we witness in the living organism. It is its life. As the living organism grows into ever more complex life, as it rises higher in the scale of development, its material organization also becomes more complex. They go hand in hand. The one cannot exist without the other. But it is only as a living reaction we know it as memory. As soon as it ceases to live it is only dead material that no longer reacts upon the forces of the world in a systematic and constructive method and which is its memory or life. This may be conscious and unconscious, but so long as it exists as a living activity it is an unfolding of its ancestral memories.

Organized and "unconscious" memory is ever active, alive and never at rest. Its functional activities are incessantly and automatically correlated into that general

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unity of activity in the organism we call its life. When this general functional but unconscious organic activity, as we observe it in profound sleep in man, is stimulated by rest, nourishment and the forces of the world into a little greater functional activity with their special and specific irritations, there arises as a result of the adjustment of these sensory stimuli that state of feeling with all its variations we call conscious memory.

This is why we know our sensations only in conscious memory. They must have a certain tensility or functional activity before they can rise into this field of life. It is the systematization of these complex sensations with all their variations into a general unity we call thought. The greater the assimilation and adjustment of the sensations into system and order in our anatomical organization the better organized is our thought, our conscious memory. The physical basis or organized memory persists; it only needs a special stimulus to bring it into the highest functional activity as conscious memory. "All physiologists hold this reproduction to be simply a form of nutrition; therefore the basis of our memory is nutrition—the vital process *par excellence*."—Ribot.

Here again we find that life is a never ending functional activity. The unchanging quantity of the forces of the world by their ever changing form, the result of their constructive reaction, becomes organized in the tissues as stored-up, active and living memories.

Memory in its widest sense is the organic history of the world. From the *amœba* up to man every organism is an organized living memory. Organic memory is the basis of the theory of evolution. The whole theory of heredity is the unfolding of organized living memory. From the simple and primitive reactions to the stimuli of the external world, with their unconscious activity in the lowest forms of life up to man, with his highly endowed conscious existence by a regular process of development in organization the functional activities go hand in hand. Increasing organization means a wider adjustment or assimilation of the forces of the world. The eyes and ears and their special nerves, like all sensory nerves in general, are organized memories that have been developed by a regular and systematic process. With their increasing organization they react to the stimuli of light and vibration, with increasing rapidity and accuracy. It is by the means of their sense perceptions we have created our knowledge of the physical world.

In the simplest form of life, like the *amœba*, we have a general and diffuse reaction to certain forms of stimuli. As we go a little higher in organization we find transit lines of motion or primitive nerves that form an arc of activity that carry sensory impulses to a central ganglia wherein they are adjusted and then transmitted along motor nerves to equilibrate the organism to its environment. This is a simple reflex action. It is also the first evidence of the organization of the circulatory function of the nervous system, and it has as much anatomical and physiological foundation as the then circulatory system of the blood.

As we ascend still higher in the scale of organization wherein we find a specialization of function of the sensory nerves with a relatively increased central ganglia to adjust them into a general unity of function we enter the field of nervous or vital activity that we designate as instincts, and in which the first diffuse and unformulated states of consciousness make their appearance; until eventually in man, with his highly organized

nervous system, with his more than two million sensory nerves sending their functional activity into that central ganglion, the brain with its two thousand million cells, and whose special function it is to equilibrate all these varying sensory functional activities into a harmonious and related unity, the interaction or adjustment of which is so complicated and involved that it takes an appreciable time and in the circuit of which there arise those states we call feeling, emotion and volition.

This is why, as the states of the functions of the various organs of the body vary, our states of feeling vary. If we stub a toe or have an appendicitis the special sensory nerves send their energy into the brain wherein the increased and changed activity at once becomes supreme and is so out of tune with the rest that we call it pain. At the same time every organ of the body is striving by its increased activity of function to equilibrate it into unity. This is the *vis-medicatrix*, or the law of self preservation.

As consciousness in its most ideal state is but a concentration of the state of feeling into a special and definite direction by stimuli of various kinds that control the attention for the time, its basis is in the general activity of the function of the brain, but in which by a special stimulation of nerves of sensation some local function of it rises a little higher than the rest and thus controls it for the time. This is why consciousness is so transitory and changing and is like an ever shifting panorama.

If again we take a bird's-eye view of the function of the brain, with its anatomical organization to receive the sensory energy carried into its various parts by the more than two million sensory nerves continuously and incessantly, with all their characteristic variations from every organ and almost every cell of the body to be adjusted therein into a general unity, we need not feel surprised that out of the reaction of these manifold sensations in this great and plastic sea of activity—the brain with its fibers of association—there should, as a result of its functional activity, arise those states of existence we call feeling and consciousness as a synopsis of the whole, a general expression of its inhibitive function, and again sent out into every part of the body as motor function to adjust it to the world in which it lives.

This seemingly chaotic plastic ganglion, the brain, with its millions of cells, and of which it may be said no two are exactly alike, but differ as do the faces of our race or the leaves of the trees, were not created "just for nothing" and by chance, but have developed in the regular order and system of the creative process the reproductive faculty of organized memories or experiences which we call heredity.

"If we could examine the developing motor region with a microscope of sufficient magnifying power it is conceivable that we might learn wherein the modification due to exercise consists. We might also, under such conditions, be able to say, 'This is the motor region of a piano player. The modifications here correspond precisely to those necessary for controlling such movements of the hand;' or, 'This is the motor tract of a blacksmith; this of an engineer; and these must be cells which govern the vocal organs of an orator.'—Halleck.

While it is no doubt true that these specialized activities of life would cause an increased development and organization in certain motor areas of the brain, just as the muscles, nerves and blood vessels in the

arm of the blacksmith would reach a little higher development, yet it would be proportionate and related to the whole. This is equally as true of the piano player and orator, for the special efforts are supported by the whole of the functional activities of the body in one general unity.

It is as important that the liver, lungs and kidneys perform their functions normally as that all the functions of the brain sustain the special motor area that for the time is stimulated with the greatest activity and brings it into view as a specialized, active and clear state of consciousness that controls for the time the whole attention.

It is, and always must be, a concentration of attention into a single idea or stimulus that by practice and exercise becomes organized in the living material substance of the brain. This is why it can be reproduced. It also explains why its functional activity is ever changing and transitory in character, for, like all active exercise in general, it soon causes exhaustion and needs rest for repair. But this very stimulation that produces this exhaustion brings in an increased supply of blood and thus builds it into just a little higher perfection, so that the next time it can be produced with a little greater ease, grace and skill.

To produce all these varied forms of conscious life, whether in music, art, oratory or athletics, there must be a concentration of the circulating nervous energy by a special stimulus in some local centre of the cortex that for the time being is in a more active state of existence, rises a little higher than the nervous energy around it and thus holds the attention for the time in an ideal and specialized consciousness, but soon sinks back into the average, every day, composite state of consciousness we call feeling. But this special stimulus may be transmitted into related and neighboring stored-up memories, and thus we have a continued flow of the special conscious life.

As the piano player develops certain motor areas in the brain as well as the nerves, muscles and blood vessels in the arms by continued practice and exercise to respond with accuracy, precision and rapidity, so does the blacksmith and carpenter. This is why the one can never perform the function of the other with the same skill. The plastic cells of the brain, in common with the nerves, muscles and arteries, become organized to respond to the stimuli that developed their special activity.

In each of the special developments there is a related and harmonious unity of function, the existence of which is produced by the associative fibres and thereby formulate it into the common conscious life that pervades mankind in general, for they all, with greater or less variations, are organized and acted upon alike. It is chiefly the training of the special senses to a little higher state of functional perfection that marks the individual characteristics.

If this is true then our conscious volitional life is the result of the functional activity of our organized material memory. The myriad reactions in our terminal sensory nerves, not only from without, but within, no matter whether from light, heat or food, are transformed into nervous energy. This nervous energy, with its simple form of sensation, has nothing in common with the sensory nerves and the forces like light, heat and food they come in contact with that give it existence. It is the reaction of these forces translated into nervous energy which we alone can know in our conscious unity; and is why thinking is organized living memory, the continuous unity of life.

While the reactions of our organized bodily memories, with the forces of the world, produce the circulating energy of the nervous system, with all its variations, as given in the special senses, still this is not consciousness or thinking. We have yet to go a step higher to recognize its production, for it is only created out of these special sensations in their equilibration or adjustment into a general and related unity of function, which we call our life in general, and is expressed in states of feeling and consciousness, and is thus the measure of our own life with all its variations, as well as the world of phenomena in general and our place therein. Indeed, it is the synopsis of the world organized into this conscious unity. It is our knowledge of nature. It is not only no longer a blind but constructive force in its architecture, but an organized unity of function which weighs, measures and directs them, and is hence a distinct and characteristic but miniature world within itself that is not only responsible but creative.

Although our conscious unity and nature as we know it in this consciousness are interdependent and related, yet they are so characteristic and distinct that we have intuitively conceived them as separately organized, but interrelated states of being. A man's idea of the world with himself therein is his perception of it; his reaction as given in his organized conscious unity. If his reaction of the forces in his organism is his idea of it, and as this idea, *per se*, has nothing in common with the forces in his organism and the external stimuli that gave it existence, what is this idea?

If it is the reaction of his body to the forces of the world, and as he can only know the world through these reactions as they are adjusted into a coherent and related unity as given in "this idea," it is the only real thing in it; and what we commonly believed to be the only reality is, in fact, but the ideal and hypothetical substance that gave it existence. This is why our knowledge of the world as interpreted in our consciousness is but an ideal phenomenological process of the ultimate causal reality of which we have not the faintest conception.

In our last analysis of man's place in nature, what we call the real world, has only a hypothetical existence. That the only reality we have of it after all is the expression in our consciousness. And as consciousness is the court of last resort beyond which by no stretch of the imagination we can hope to reach, it must again be evident that the creative processes must ever remain an enigma, a mystery. Nevertheless, "In the mental, as in the material world, we hold fast to the law of continuity. The *identity hypothesis* regards these worlds as two manifestations of one and the same being, both given in experience."—(Höfding.)

If we take the simple, instructive and common sense view, that not only pervades mankind generally, but is accepted by the most enlightened scientific thought of our time, we can formulate the proposition about like this: If out of the hypothetical ideal matter of the world by the methods of law, order and system, by a regular process of development our "real" organized conscious life was born into existence with its unity of function whereby it becomes capable of observing, measuring, weighing and directing the "ideal," blind formative material forces of the world, then the most crude and primitive conception of a great creative unity is more scientific than the science of the most cultured materialist.

Even if the brain generates thoughts, volitions and feelings in the same sense that the kidney secretes

urea, or the lung gives off carbonic acid, there is no real comparison, for the "ideal" forms of existence as given in our consciousness of urea and carbonic acid have nothing in common with the "real" conscious related conception we have of them. We cannot even think of urea and carbonic acid looking into the face of consciousness and measuring, weighing and adjusting it to the world of phenomena in general.

In the light of this comparison between the blind architectural forces of the world and the conscious unity of it all speculation as to their purposive identity lands us in the realm of absurdity. The one is only a brick in the general architecture, the other is the world as known in its organized conscious unity.

It does not need, however, a great stretch of the imagination to lead us to the conclusion that our consciousness, though real, is limited by the creative forces of the material world and beyond which we cannot hope to transcend, for "in (them) Him we live, and move, and have our being." This is His scheme of creation as revealed to us in the constructive architecture, as we have observed it in our organized conscious unity; the organized and constructive living memory of past experiences.

If the creative "ideal" forces by a regular process of development have brought about our real conscious conception of them, and as this conscious conception must be an unknown quantity, a synopsis of the creative process, it is not irrational to conceive that we are only weak examples of the great reality that formulated the creative process, and that in its most ideal development—man—there was reproduced a finite, miniature and reflex conscious image of Himself. This is why, naturally and intuitively, we have been led to the conclusion that, while our consciousness, although a product of the development of material organization, is distinct from it; and so the creator of them must be.

Here again we find that the scheme of the Creator, by a regular process of development in His creation, has come round again in conscious man as a reflex image of His purpose. This is the basis of our idea of the world and the relation we hold within. And while we know the world only as given in our consciousness, and as our consciousness is the only reality, we have formulated a conception of the Great Reality.

From whatever point of view we try to analyze the proposition as to the ultimate purpose of our individual existence it always reverts us back into a mystery so deep and far reaching that it must forever remain a closed book. Indeed, it may positively be stated that it becomes more obscure with each increasing step of knowledge; for greater unity, system and relation makes our conception of it more profound. While it widens the imagination to greater flights of ideal fancy, it also demonstrates that it is but an atom in the shoreless and boundless creative reality. This is why with increasing knowledge there goes increasing faith, and this faith the ultimate conscious unity—the great mystery.

It is this basic experience of all conscious life, from the lowest to the highest, that has caused mankind to reverence it in all the varying forms of worship with which we are familiar. This is why it has such an enduring existence.

Here we have reached the limits of our inquiry. The finite but boundless ocean of our consciousness, with all its possibilities, is bounded on the one side with the infinite conscious reality and on the other by

the infinite architecture out of which it was woven, and which we can never hope to transcend, and are thus confronted from all sides with the infinite mystery that is past all solution.

It matters little what one individual thinks, or into what intellectual harbor he has taken refuge and cast his anchor with faith and hope in this great, unfolding and universal stream of the creative process; yet of this we can be assured, there is not such a great difference in the general stream of our conscious life as we are too often caused to believe because we have taken harbor in some special idea of the universe of phenomena as we know it in our conscious unity. It is also because in this great stream of phenomena we find the same order system and organization that we are forced to the belief that there is as much unity and interdependence of relation in the conscious as in the material world.

Thus, after briefly giving the relation of our functional activity as we find it in the anatomical structure and its physiological and psychological experience and the relation between them, we are justified in forming the conclusion that thinking is the result of the functional activity of the brain. That there is a phenomenological relation between the gross material substance brain, its circulating nervous energy and that ultimate reality we call thinking.

It is out of this conception in our conscious life with its individual existence and its relation to the material world—the one in continuance of mind, the other in the continuance of matter—that we have grown into that basic form of hope which gives us a strength and stability compared with which all other systems of thought sink into insignificance.

This conception of the world also demonstrates that it was not created just for "me." That we are only atoms in this great scheme of creation. And even if our consciousness should die with the death of our bodies, our organized and enduring memories, with their creative and constructive purpose, would be so impressed that our succeeding posterity would profit by them, and thus be remembered as a physical immortality that would grow into increasing splendor and beauty and thus endure for ever.

From whatever point of view we study the problem, of this we are assured—that immortality can only be attained by obedience to the constructive architecture. We also have reason for the hope, born out of our organized conscious unity, that we are only finite atoms, miniature children, of the All-Conscious Unity, and thus of a personal immortality.

Even in the materialistic mythology of the Greeks this all-pervading conception is clearly recognized on every hand. It was their conception of God working through nature. In their whole system it is unquestionably evident that "thought and feeling do not enter into the closed circuit of physical transformations but stand forever outside." They recognized a supreme consciousness superior to their own, which they formulated and materialized in their system of mythology. All who will study the poem of Schiller, "The Gods of the Greeks," will find that its basic conception was "*Alles eines Gottes Spur*."

These established doubts, with all their hopes and anticipations in the past, are the ever-present and engrossing problems of the present. Increasing knowledge of the blind but constructive architecture, with its purposive system and unity, not only confirms the Great Unity, but also increases the mystery of His

existence. They go hand in hand, and that is why at present it is no nearer solution. It is the ever-present and all-transcendent problem of every age. It is the star of hope—a continued and never-ending inspiration. The simple mystery of the past, as well as the crude and untutored conception of the present, has as basic and definite an existence as the most cultured, scientific and philosophic conception. It is only a difference of degree. It is the same stream, only worn a little wider and deeper, and thus makes us all of kin, and links the past with the present as well as the future. It is upon this universal experience we have grown into an ever-increasing tolerance, broader charity and greater humility.

In summarizing we may state that the brain thinks. That it excretes thoughts, like the kidney urea. That thinking is not brain or its functional activity, any more than urea is kidney or its function. Also, that thinking, like urea, is a form of force, of energy.

This is materialism in all its purity. If this was all of the problem, materialism would be a demonstrable fact; but a wider study clearly indicates it is only the primer of the question.

As soon as we begin to compare the highly complex material product urea with thinking and consciousness, we are at once forced to admit the positive and characteristic distinction between them, for urea, like all material substance, is a distinct unit, while thinking is an organized unity, an organized world within itself; indeed the only world we know. Thinking knows urea and its relation to the sum of material forces; but we cannot think of urea looking into the face of consciousness and thinking. This is why they have nothing in common. Thinking is the architectural unity, the world, while urea is but a brick in the architecture.

This distinction is so positive and apparent that there can be no mistaking of their relation. It is out of this organic conception that man has naturally and intuitively evolved the present system of our social, educational and religious life. It has been and ever will be the basis for our activities, for the only world we know is that given in our consciousness. It is the real world, woven out of the bricks of the material architecture, and thus is also a part of it, but so characteristic and distinct that we can no more compare them than we can a bone or liver cell with a man, or a bucket of water out of the lagoon at the World's Fair in Chicago in 1893 with the World's Fair.

But if thinking is a product of the functional activity of the brain, and hence a form of force, we need not necessarily go into an intellectual fit, fearing that we have stranded into ultra-materialism, for our very conception of God is a living force, an all-conscious unity, an omnipotent, omnipresent, omniscient energy that is ever active, directive and never at rest, and of which our conscious unity is but a finite and miniature fac-simile.

This is the established and commonly recognized scheme of creation as practiced by all mankind, past and present, and thus has a stability and validity as organized and enduring as any thought whatsoever.

As the human "mind," the organized, conscious, thinking unity, is but a finite part of the infinite unity, and the human body of the infinite architecture, they can never pass the conditions of their finite existence. This is why "nature becomes deaf to our questions and no longer gives answer."

With this infinite and insolvable mystery on each

side of us, we have formulated a natural trinity, in which the All-Conscious Unity is the Father or architect, the constructive architecture the Mother, and out of which the Son is born as a finite child, in whom the conscious unity is typical of the one and the bodily organization of the other, and all blended into one coherent and related unity.

This is the sum of the phenomena of the world we know as given in our consciousness. It is bounded on all sides by the infinite mystery. But this very system, with its law, order and relation, justifies us in the belief, a belief as true as nature itself—that we are related and orderly parts of the infinite Architect and architecture, a conception which increasing knowledge ever enlarges, but never revolutionizes or transcends.

We cannot surmount our finite existence, nevertheless we are justified in speculating as to the meaning of the infinite purpose that thereby we may form a more clearly organized and established basis for our code of conduct.

While in the infinite Architect and architecture, with its unerring system and order, there can be no wrong, no evil, but all good; yet our finite and limited life brings clearly into view good and evil, and this because we are finite. For finiteness means limitation, and limitation incompleteness, with all its variations and disturbances we call good and evil, pleasure and pain.

This is why increasing knowledge means increasing good, increased health and happiness, and is why we seek it. This, also, is why we not only study the world physically, as it is related to our finite life, but religiously, as it is related to the infinite purpose. They are related parts of the same organic unity of our conscious activity. This is why all alike throw up their hands, and with upturned faces, on bended knees, humbly and reverently appeal for more light, direction and guidance, thus naturally and intuitively recognizing our finite existence as a related part of the infinite.

We cultivate the brain as certainly and positively to bring about well organized and enduring thoughts as the farmer his field that it may produce good crops.

We feed the senses with the organized art, music, poetry, science and literature as we feed the soil with good seed and wholesome fertilizers. Twitch grass on the farm is as injurious as badly trained nerve cells in the brain. "No human being knows a more relentless enemy than motor nerve cells which have been wrongly trained in early life. Such a man may be worth a million, but the bad grammar will continue to flow automatically from the motor mechanism of speech, and to mortify him in good society."

Thinking is a no more wonderful and ultimate phenomena, the result of the functional activity of the brain, than the growing and developing life upon the seemingly sterile soil; but the distinction is great, for in the latter it is only thinking that made it so specialized, directive and economical. It is this that makes thinking a specialized, economical and creative unity. It is thinking that makes the only world we really know, and yet all mankind, nearly, is afraid to think, fearing that thinking will annihilate itself by being resolved into the gross material world by which it is surrounded, never thinking for a moment that this seemingly real world is the great ultimate and infinite mystery that is up for solution. The ever-present living and thinking problem, that no matter how com-

pletely we may organize it in our thinking, conscious life into an organized unity, it is the same ultimate mystery still, only woven into a little greater system and order in it, but gives us a more profound, comprehensive, clearly defined and organized conception of the all-conscious unity of purpose. That the only way we can know God is through his revelation in creation, as given in our conscious, thinking unity.

THE INFLUENCE OF THE NERVOUS SYSTEM ON METABOLISM.

BY GEORGE C. BARTON, M.D., MINNEAPOLIS, MINN.

I HAVE selected this subject because I believe it is one to which the profession has not given the attention it deserves, and because, in my judgment, it explains certain phenomena not well understood. Mills in his work "Animal Physiology," says: "This subject is of the utmost importance, and has hitherto not received the attention in works on physiology, to which we believe it is entitled."

In the first place, we have certain experimental demonstrations of this influence. Section of the nerves of bones is said to be followed by a diminution of their constituents, indicating an alteration in the metabolism. Section of the nerves supplying a cock's comb interferes with the growth of the appendage. Section of the spermatic nerves is followed by degeneration of the testicles. Section of the chorda tympani nerve changes the secretion of the submaxillary gland. Section of the sciatic nerve causes atrophy of the tissues to which this nerve is distributed. These are a few experimental demonstrations of what takes place in tissue when its nerve supply has been severed from its center; but this is sufficient to teach us this lesson, that while the blood may continue to carry to the tissue the food upon which it grows, that the cells of that tissue need something else besides the mere application of that food to the cell to keep their normal metabolism; and that this something else has been stopped by dividing its nerve.

We have again certain diseased conditions which illustrate very strikingly the same fact. When an intercostal nerve is injured or diseased, either at its center or at some place along its course, the disease known as herpes zoster may make its appearance and be confined to the distribution of the diseased nerve alone. Other nerves being diseased may produce a skin affection of some kind. In certain cerebral or spinal lesions bed sores make their appearance very rapidly, and this in spite of every precaution taken to prevent it. A diseased condition of certain nerve fibers, vaso-motor or otherwise, gives rise to an excess in the secretion of perspiration in the region to which such nerve fibers are distributed. It has been shown that unhealthy ulcers, which would not heal, were made to heal very rapidly by suturing together the divided ends of the nerve which supplied the part. These are a few of the many diseased conditions which demonstrate the influence of the nervous system on metabolism.

We have in diabetes, due to some nerve lesion, an illustration again of the influence of the nerve over the metabolism of the liver. Howel and Dreyer conclude an article in the "Annual of the Universal Medical Sciences" of 1895, as follows: "This experiment confirms the previous result in showing that the conversion of glycogen into sugar is under the direct control of the secretory fibers contained in the splanchnic nerve." Then we may conclude that these nerve fibers act upon that particular part of a liver cell which in its metab-

olism stores up glycogen, and stimulate that particular part of the action of the cell which converts glycogen into dextrose, and by reason of this excessive formation of dextrose and discharge of it into the blood we have a diabetic urine.

In another way is the influence of the nervous system over metabolism demonstrated, and that is in demonstrating the heat-producing center. Increased formation of heat must be produced by increase in the katabolic process. Foster says: "In a number of experiments it has been shown that injuries to, such as those caused by puncture or galvanic cautery, or electrical stimulation of a limited portion of the more central portion of the brain, may give rise to great increase of the temperature of the body without producing other marked symptoms. The increase is shown by the increase of metabolism, increased production of carbonic acid, and increased consumption of oxygen as well as by direct calorimetric observation, to be due to an increased production of heat." The heart, although an automatically acting organ, will, when the vagi nerves are divided, degenerate in its muscular structure. The vagi are called the inhibitory nerves of the heart, but by their action they influence the metabolism of the heart muscle cell. It is not enough that those cells be supplied by a sufficient quantity of good healthy blood; that food fails in its purpose unless the nerve power acts with it.

In dyspnoea, brought on, it may be, by the action of reduced hæmoglobin acting upon the respiratory center, we see the violent action of the respiratory muscles. What we learn then by these changes is that through the nervous system the changes which take place in tissue, whether that is increasing it in its activity or lessening its functional power, are brought about. How each particular cell is influenced by a nerve fiber we cannot say; indeed, in many cells we cannot demonstrate that any nerve fiber ends in them. We say a patient is suffering from a functional disease when some particular organ or part of the body fails to perform in its normal way its special function, without our being able to demonstrate any organic change in the part as having taken place. It seems to me then in the light of physiological research we should be justified in saying that a functional disease is one in which the nerve power over the activity of the cells in such structure has been lessened or lost, and that in treating the condition our efforts should be directed not to the structures of the part, but to bringing about a greater nerve activity upon the part. In a "Digest of Metabolism Experiment," issued by the U. S. Department of Agriculture, we have among many other experiments reported the following case as illustrating the influence of the Weir Mitchell treatment upon metabolism. Upon a woman 1.66 meters tall was made by Bleibtren at the laboratory of the Physiological Institute in Bonn, in 1887, the following experiment: She had been ill for many years with an irritation of the spine, which caused hysteria. With great difficulty she could walk a few steps only. She spent most of the time in bed or lying on a couch. She ate very little and had a very marked nervous dyspepsia. Part of the spinal region was very tender, and the subject could not endure the light. She had no organic disease. The food, which was very abundant, consisted of meat, milk, eggs, bread, potatoes, vegetables, butter, zwieback and cakes of some sort. No details of the daily food consumption are given by the author. The proteid of the food was estimated from Koenig's tables. The nitrogen in the urine was deter-

mined. The urine was collected for several days, phenol being added as a preservative, and samples were taken for analysis. The nitrogen in the faeces was determined on four days, and the mean value 7.57 per cent. taken as representing the percentage of undigested proteid in the faeces during the whole period.

At the close of the experiment the patient was in good health and could walk several hours per day. The lameness in the back had disappeared. She had gained 15.48 kilograms in weight, and the author calculated that 7.414 kilograms of this was muscular tissue. The Weir Mitchell cure in this case was certainly beneficial.

Mental effects influence metabolism to a greater or less degree, as seen in great fear; it has frequently been said that "his fear paralyzed him." Many a man has felt his legs almost give way under him and his arms grow so weak, that to resist a most insignificant attack would be impossible. This is evidently brought about by an action through different nerves inhibiting the metabolism of the muscle cell. Again fear acts upon the salivary glands so that the mouth is made dry. In this case the secreting cells have through the efferent nerves going to the gland inhibited these cells in their action. Now this may have taken place by reason of the action of the vaso-constrictor nerve fibres acting upon the blood vessels and lessening the blood supply to the gland, and in that way lessening the secretion of saliva; but under the influence of belladonna the secretion of saliva will be stopped although the blood supply is increased. This demonstrates at least that other nerve fibres besides the vaso-motor fibres act upon the secretion of the gland.

The normal metabolism in the stomach is interfered with by certain mental effects, as when eating a hearty meal some bad news is received, the digestion of the meal is stopped and the food probably vomited. This certainly teaches us that a mental impression acting through the efferent nerves of the stomach upon the gastric glands stops their secretion, and the food becomes an irritant to the stomach.

We have probably all of us at some time or other noted the striking change in the quantity of urine secreted under certain mental stimuli; and especially have we seen the enormous quantities of urine voided by hysterical women. Without a change produced by the metabolism of the secreting part of the kidney this excessive excretion of urine could not take place.

In our study of the influence of nerve force over metabolism, "it is of practical importance," says Mills, "to recognize that under great excitement unusual discharges from a nerve center may lead to unwonted functional activity; thus, under the stimulus of the occasion a man may in a boat race originate muscular contractions that he could not by the strongest efforts of his will call forth under other circumstances."

The insane or violently delirious will often show muscular strength for beyond their powers in a normal condition.

We may ask, of what value to us as practitioners of medicine are these demonstrations? In our eagerness to demonstrate as the cause of nearly all diseases some disease-producing germ, we have probably not directed our investigations in other important directions so much as we ought. Also in the great desire in the profession for everybody to become a great surgeon, and to skillfully remove all diseased organs with the knife, we have left to quacks, with their "isms" and "pathies" the practice of means which undoubtedly are beneficial in the treatment of disease.

If, then, the nerves are so important to the metabolism of the different tissues of the body, it is important for us to understand how that nerve supply may be stimulated into a more vigorous action when the part shows by an interruption in its normal functions that something is wrong. The part itself may be all right and the nerve supply be at fault. This may be due to a changed condition of the nerve, or to the faulty metabolism of the nerve cell at its center. Electricity applied to the course of a nerve, when that nerve has failed to supply the normal stimulus to a muscle, owing to some central lesion, will excite the metabolism in the muscle, as shown by its contraction, and also by the want of atrophy and degeneration of the muscle. Old ulcers have been made to heal by the application of the electric stimulus to the nerve supplying the part. This stimulus may differ as widely from that which is the normal stimulus as it is possible for any two things to differ, and yet it proves the fact that a stimulus applied to a nerve does increase metabolism.

In the case just reported of the effects of the Weir Mitchell treatment we have proof of another means of stimulating nerves and hastening or stimulating metabolism. The Weir Mitchell treatment, I presume you all understand, is simply massage with the giving of plenty of food. In massage you have a mechanical means of stimulating the nerve fibres to action. The osteopath calls it osteopathy, but "by any other name a rose would smell as sweet."

We are able to demonstrate by the use of a muscle nerve preparation that a mechanical stimulus applied to a nerve will produce a contraction of the muscle in the same manner that an electric stimulus will. In this case of Weir Mitchell's there was used, no doubt, general massage so that the nerves supplying the digestive tract were stimulated, and in consequence there was increased supply of digestive juices, which increased supply prepared for the blood an increased supply of nourishment for the tissues, while the increased metabolism of the tissue was able to make use of this increased supply of food.

Outside of these artificial methods for stimulating metabolism, we have a series of phenomena which has not probably been very well understood by physicians, and which it seems to me is entirely explainable from a physiological standpoint. We have recognized certain results, but have denied the power and justly, too, of the agent that was producing the result. At this point we have usually stopped without entering into a study of the phenomena which have given rise to said result. As physicians we are just as much to blame for not using an agent that has seemed of service in the cure of disease, or for not investigating and trying to understand it, as we would be for failing to remove a diseased appendix or studying the nature of appendicitis. We should be ashamed to acknowledge that we have been forced into a recognition of the influence of certain psychic phenomena on metabolism by quacks and those outside the regular profession; but such is the fact.

Then the third part of my subject which shows an influence on metabolism is what I will call the natural or normal stimulus. I also want to direct attention to the uses that may be made of nature's own stimulus in the treatment of disease, for the time has certainly gone by when we can wrap ourselves up in our professional dignity and declare there was no disease, when patients are reported cured by any of the many methods used which can only influence the diseased part through the central nervous system. We all know that it is a com-

mon belief among the laity that if they have no faith in their physician he can do them no good. What does that mean? It simply means that the laity have observed certain results, without any explanation for them, the same as the milkmaid knew by common observation that she would not take smallpox because she had had a sore on her hand, a fact which in Jenner's hands is made the instrument of saving thousands of lives. I believe that the unborn fetus is so influenced in the metabolism of its tissue by the efferent nerves of the mother, giving rise to birthmarks and other constitutional peculiarities.

We recognize in connection with the muscle fibres, especially the unstriated muscle fibre, when nerve and muscle are normal in their relation and function, a certain condition which is described as normal tone. Now that tone must be a condition of the muscle fibre due to the influence of the nerve impulse, for if the nerve is divided the muscle fibre loses its tone. If then it acts upon a muscle fibre keeping a normal tone in the fibre, it is simply acting upon one form of cell keeping up a normal metabolism in that cell. I can see no reason for not applying the same theory to the other cells of the body. Then that which interferes in any way with the normal tone of a cell interferes with the metabolism of that cell. We have then, if this theory is correct, every tissue of the body bound to and influenced by the stimulus, or whatever you please to call it, flowing along efferent nerves from the central nervous system. Any interference with that stimulus would give rise to functional inactivity of the part, and any means which will in any way increase the flow of that stimulus will increase the activity of the cells. Can you, as a physician, by reason of the thing you give, or by reason of the suggestion you offer, cause the activity of the cells of the brain to so increase in their functional activity as to send to these inactive cells through these inactive nerves new power? This may be done by chemical changes produced by the drug given; or it may be done by the impression upon the higher parts of the brain acting upon nerve centers which supply the part. I also believe that it is not alone functional disease that is so influenced, but also that the organic changes in tissue may be so wrought upon by a stimulus from the central nervous system, that the anabolic process is so much increased over the katabolic process that the diseased organ is reconstructed.

I have now briefly endeavored to show the influence of the nervous system over metabolism as shown by experiment, by disease and in mental phenomena. I have also spoken of the practical application of a knowledge of this influence. I believe it gives the true explanation of the cures reported by mesmerism, the cure of king's evil by the laying on the king's hands, spiritualism, Christian science and kindred delusions, simply effecting metabolism by a mind influence over the part through efferent nerves.

—Prof. Rudolph Virchow's jubilee—the fiftieth anniversary of his tenure of office as professor ordinarius—was recently celebrated at the University of Berlin, says *Science*, December 22. In the Hall of the Pathological Museum (Virchow's own creation) the Senate of the University assembled to greet their revered and honored colleague, and to present an illuminated and illustrated address, in which Virchow's wonderful many-sidedness, and his achievements as scientist, archeologist, and politician were recounted in glowing terms.

ACUTE GASTRIC CATARRH.

BY M. E. FITCH, M.D., PHILADELPHIA.

THE diagnosis of Acute Gastric Catarrh presents little or no difficulty except in the febrile cases. In non-febrile cases there is an account of some irritating food having been taken, or of some dietetic excess. There is epigastric tenderness and a heavily coated tongue. Some authorities contend that the state of the tongue depends altogether on the state of the mouth and has no significance in connection with the stomach. But I believe, even in absence of stomatitis, that, far from being a mirror of the stomach, yet the tongue does partly reflect the condition of that organ. It is affected in gastric disease and the first signs of improvement are the clearing of the tip and sides of the tongue. Of course, from time immemorial the physician has looked at the tongue; sometimes he looks and doesn't see it because he is thinking of something else. But we do obtain evidence of the gastric condition by the tongue; and sometimes we can foretell a speedy recovery thus, even when the patient is loth to admit he is any better.

I have seen acute gastric catarrh confounded with appendicitis, and I have myself hesitated for a few hours in diagnosis between the two. And typhoid fever may resemble this and sometimes the eruptive fevers. Dr. Fagge, whose work I have mentioned as a storehouse of clinical information, mentions a case of acute suppurative peritonitis where he made the diagnosis of acute gastric catarrh. With reference to typhoid fever, it is rarely so sudden and explosive in its manifestation as acute gastric catarrh; but sometimes it is.

Now in coming to the treatment the first question is whether we shall give an emetic. Emetics are nowadays rarely employed, perhaps not so often as they should be. In acute gastric catarrh they are only indicated when there is a sense of fullness and distress in the epigastrium with an inclination to vomit. A glass of warm water containing mustard may be given, or 1-60 grain apomorphia injected under the skin in the case of an adult. In children a teaspoonful of alum may be given. In the great majority of cases vomiting has occurred before the arrival of the physician, and the indication is to relieve excessive irritability. The thirst may be allayed by a soda water or a carbonic acid water. Calomel and sodium bicarbonate may be given every hour with good effect. No solid food should be given during the attack, and in most cases no solid food should be given within twenty-four hours. Milk may be given, two or three ounces every two hours, with half an ounce of lime water. Sinapisms applied to the abdomen are of benefit, although the stomach moves freely beneath the skin and is in no way connected with it by blood vessels; it must be explained by some reflex nervous influence. Pain may be relieved by small hypodermic injections of morphine; 1-12 grain will often relieve it, or less than this. I would rather give 1-24 grain repeatedly than a large dose at once. Alcoholic stimulants should be withheld entirely.

Chronic Gastric Catarrh.—The symptoms of chronic gastric catarrh resemble those of acute in a minor degree; there is uneasiness and distention; rarely any pain. The appetite is irregular and capricious, and immediately after eating there may be a sense of weight and fullness in the epigastrium. There is often also a conviction on the part of the patient that the food remains too long in the stomach and that there is a difficulty in propelling it into the duodenum. Thirst is somewhat

increased, but is rarely excessive. Eructations of gas are sometimes accompanied by small quantities of the contents of the stomach.

The disposition of the patient may be altered, and we have the well known group of symptoms of the disease which used to be known as chronic dyspepsia. There is headache, a sense of heaviness in the muscles, muscular twitchings, often a sensation of insects creeping over the skin, sleep is disturbed by unpleasant dreams, or it is heavy but unrefreshing. Then there is the cough, called the "stomach cough," produced by an irritation of the pharynx from food or drink, or by eructation of the acid contents of the stomach, or it may be entirely reflex. Vertigo is a prominent symptom, and it may be an alarming one. The connection between vertigo and chronic gastric catarrh was first observed by Prousseau. In this vertigo the patient rarely faints. Sometimes it assumes a remarkable form which is always mentioned by writers on the subject, a symptom that is called agoraphobia, or fear of open spaces. It is interesting but very rare and hardly deserves, it seems to me, to be called a symptom of gastric catarrh. It is a sensation that will hardly allow a person to cross a large open space. It is supposed to be due to increased pressure in the cerebral vessels.

Then again there are symptoms referable to the heart, and these may be so prominent that it is hard to disabuse the patient of the idea that he is suffering from some cardiac disease. There are palpitation, an irregular and intermittent pulse, with præcordial oppression and dyspnoea, and sometimes a well marked asthma.

All the objective symptoms, whether taken together or separately, are hardly pathognomonic of gastric catarrh, but would narrow our diagnosis to one of three conditions, and we may then by further study eliminate the other diseases. First there is the appearance of the tongue. It is hardly characteristic. Sometimes it is perfectly clean, but generally there is a thick grayish coat over the whole organ or limited to the base. It is apt to be swollen so that the sides are dented by the teeth. There may be aphthous ulcers in the mouth. The breath is generally fetid, and the saline secretion increased. The epigastrium is nearly always full and sensitive to pressure, this of course being an important symptom.

It has been shown that in well marked cases all three functions of the stomach, the motor, the absorbing and secretory, are all involved. According to Ewald it is only when the motor function is involved that well marked symptoms appear, for the other functions may be more or less supplanted by the intestine. Atony, then, is a legitimate term, for we now know that the stomach has lost its strength in chronic gastric catarrh, and we can prove it to the patient by means of the salol test, while the iodide of potassium test will also show that there is a diminution of absorption. But the most striking change is that undergone by the secretory apparatus.

In time the patient becomes pale, emaciated and anæmic. Destruction of the glandular surface advances, and unless the patient yields to some intercurrent disease, death will follow by pernicious anæmia. The majority of these persons die of some intercurrent disease before the glandular layer of the stomach is completely destroyed, yet now and then one will drag out an existence for a great while.

The diagnosis is made almost entirely by exclusion, for this reason that the symptoms are common to other affections. The chief difficulty is to exclude cancer. If

a well marked circumscribed tumor is found in addition to all of these symptoms, the presence of cancer is pretty well assured. But if you do not feel a distinct circumscribed tumor, but a smooth diffused swelling, the condition may be due to a hypertrophic cirrhosis of the stomach from chronic gastric catarrh. Other symptoms you must look for in cancer are vomiting of blood and swelling of the left supraclavicular glands. All the books speak of this, but don't be disappointed if you cannot find it. There may be cedema of the lower extremities, especially if the patient keeps about. Then there is pain on eating and more regular vomiting. The resemblance to cancer is greatest in that stage of the disease when the mucous membrane has almost entirely disappeared. As I have said over and over again, I have been enabled to distinguish cancer by examination of the blood, and this must be considered a valuable diagnostic aid. In cancer you will find between two and three millions of corpuscles, or from 40 per cent. to 60 per cent., while in the atrophy of glands like that of pernicious anæmia, in fact leading to pernicious anæmia, you may find less than one million. I have found this so often to be the case. Of course nothing is positively exact in medical science, but the number of red corpuscles in cancer is vastly larger than that in pernicious anæmia. At one time great importance was attached to the absence of hydrochloric acid. But it has since been ascertained that it may be absent also in catarrh that is accompanied by an abundant secretion of mucus, and it is also absent in destruction of the glandular layer. So the diagnosis must depend on careful physical examination and in the later stages on blood examination.

The other disease that resembles gastric catarrh in symptoms is ulcer of the stomach, and this is much more easily excluded. It is found in younger persons, especially in chlorotic women. There is more pain, which is aggravated by the presence of food. Hydrochloric acid is not only never absent, but it is often present in increased quantity and higher percentage. Now we have excluded cancer and ulcer. There is a neurosis of the stomach that may give rise to diagnostic difficulty. But these cases are rare, and generally are accompanied by signs of a neurotic diathesis. In some books simple dilatation of the stomach is mentioned as a condition to be excluded. I don't believe there is any such thing as simple dilatation of the stomach. I don't think it has any primary independent existence. With care we can exclude all these things, and I must say that it is necessary to have a clear idea of them all in treating your patient.

The prognosis is only favorable in the preatrophic stage, when the glands are still intact, and only then if the strictest measures are observed. In a case of mine which was reported by Dr. Osler there was not a single normal gastric tubule left in the stomach—one of the most extraordinary cases on record. The patient died of pernicious anæmia; the man was blanched to the last degree and the whole thing was due to a chronic gastric catarrh. Another thing to remember in making a prognosis is the liability of the patient to be carried off by an intercurrent disease. Ewald particularly mentions tuberculosis and rheumatism as diseases to which the patient is specially predisposed.

We come now to consideration of treatment. And most important are the prophylactic measures, against the occurrence of gastric catarrh, which I believe to be less common than it used to be. These are regularity of meals, a thorough mastication of food, and careful

toilet of the mouth and teeth, the latter being specially important for those who have false teeth. There is a case related in which there was no other cause discoverable for catarrh of the stomach. The man did not remove his teeth at night and cleaned them only once in three days. So that in questioning your patient you should investigate the condition of the mouth. In some individuals exposure to cold and dampness gives rise to gastric catarrh and such individuals should wear a flannel band around the waist. The diet should be carefully regulated, but idiosyncrasies are so frequent that definite rules cannot be formulated. This explains the opposite rules of diet that are laid down by different physicians. That physician will succeed best in the treatment of gastric catarrh who studies each individual case and does not insist on special articles of diet simply because they succeeded with some one else, or because he likes them himself. Because certain races can live on rice or oatmeal, it does not prove that others can. In most cases a small quantity of tender meat, either roasted or boiled, may be given twice a day. This is my opinion, yet I do not lay down any cut and dried rules about it. The best meats are beef, mutton, poultry and game, excluding rabbit. Pork, smoked meats, veal and sausage should be forbidden. About oysters there is a marked difference of opinion, probably because of individual idiosyncrasies. If they are taken they should be raw or stewed, never fried. Fish, if at all, must be given with due regard to peculiarities. Soft boiled eggs are usually tolerated by all patients. Very little starchy food should be given because of the tendency to lactic acid fermentation. New potatoes should be forbidden. A sufficient amount of starchy food may often be given in the form of well toasted bread. Milk is found in actual practice to disagree with many people, but when it is well borne, treatment by an exclusive milk diet may be inaugurated, and sometimes this will cure them. But as a rule they must have more than milk and a certain amount of toast or "zwieback" may be added. Stimulants should be forbidden as a rule, to which I believe there are exceptions, as those to whom habit has rendered them indispensable. The same is true of tea and coffee. But beer ought never to be allowed on account of its tendency to cause fermentation in the stomach.

The hygiene of the patient demands equal attention. The sleeping room should be dry and well ventilated. Much of the patient's time should be spent in the open air, and so far as possible business cares should be transferred to others, and a city life exchanged for one in the country. The best exercises are a moderate amount of horseback riding and rowing.

Medical treatment has for its objects the assistance of digestion, and the prevention of fermentation in the stomach. Hydrochloric acid is usually given in too small quantities. Ewald holds this opinion and bases it on the large amount of hydrochloric acid existing in gastric juice in health, which is two-tenths to four-tenths of one per cent. of the pure acid. Therefore, you may give fifteen drops of the dilute hydrochloric acid in water for three hours after a meal, making in all forty-five drops. It is usually given in quantities that are useless. The same is true of pepsin, which is given as a routine matter without any reference to its presence or absence in the gastric juice. It is practically always present. Hydrochloric acid may be absent while pepsin is still found. It is present except in a condition of complete atrophy of the glandular membrane, or in a stage of the catarrh where there is a large secretion of

mucus. It should always be given when absent, and may be given in doses of ten or fifteen grains dissolved in water which is acidulated with hydrochloric acid. Remember that the activity of the drug varies within wide limits, and the practitioner should always satisfy himself that the preparation he is using has real digestive properties. Many times we do not get the therapeutic effects that we look for from our drugs, because they are inert. The doses I recommend may seem large. A ferment is known to exert its influence when present in infinitesimal quantity; but you must bear in mind that the artificial preparations are much weaker than is the fresh substance.

Probably the most efficacious therapeutic measure in the treatment of gastric catarrh is the systematic washing out of the stomach, or lavage. It is washed with warm water, 30°-35° Cent., until the water that is returned is free from particles of food or mucus. Then it is washed with a solution of borax or boracic acid or sodium salicylate, or common salt. Resorcin has been recommended, but there is danger connected with it and its use has been followed by symptoms of poisoning. It is better not to use it at all, since we have others that are free from this objection. Lavage is best when the stomach is covered with an abundant secretion of mucus, but it is useful in all forms of the disease. It acts not only by cleansing, but seems to exert a tonic effect on the glands, exciting them to more healthy action. Ewald thinks there is no other condition except dilatation of the stomach in which lavage is so important a method of treatment. As an auxiliary—or in case lavage cannot be employed as a substitute—benefit may be derived from antiseptics, as thymol, creosote, benzoin, salicylic acid, administered shortly before meals so the food may reach the stomach as aseptic as possible. Bitter tonics, as quassia, gentian, calumba and condurango; also nux-vomica and strychnia, all stimulate the motor power of the stomach and excite the glands to more healthy action.

There are two symptoms, gastralgia and pyrosis, which may call for treatment. Gastralgia may be obstinate to all treatment except by morphia. But morphia should be withheld as long as possible, both on account of the danger of inducing the habit and its tendency to increase constipation; it also destroys whatever appetite remains. Chloroform, belladonna and chloral may often be substituted successfully. Chloroform water given in tablespoonful doses is good—simply water in which chloroform is shaken up. Pyrosis is the other symptom I mentioned with which we have to deal. It is often a very distressing symptom, caused by an excessive lactic acid fermentation. It may be temporarily alleviated by bicarbonate of sodium, bismuth magnesium or other alkalis. Lime water is used, but it is very mild. But instead of preventing the further formation of lactic acid they increase it, forming a better medium for the growth of the fermenting micro-organism. Hydrochloric acid given as a test during a meal has been found to prevent entirely the formation of lactic acid. So we see that alkalis should be given sparingly and the best way to prevent lactic acid fermentation is by the administration of hydrochloric acid.

Another important indication for treatment of gastric catarrh is regulation of the bowels, which in the majority of cases means a relief of constipation. Drastic cathartics should be avoided. We may make attempts to relieve the constipation by the use of fruits, either stewed or fresh, of which prunes somehow enjoy the greatest reputation; figs and baked apples are also good.

I think their advantage is overestimated. These failing, the confection of senna, aloes, rhubarb, podophyllum and cascara are at our disposal. Salines are not to be administered, both on account of their bulk and their alkaline qualities. Simple enemata are useful as adjuncts to treatment by medicines and may be used on alternate days with them. One thing must be remembered, and that is they are not to be administered immediately after meals, as they are apt then to cause diarrhoea.

Various mineral springs are recommended, especially by the Germans, as applicable to the treatment of chronic gastric catarrh. It is very significant that all these advocates of waters from mineral springs admit that their virtues depend largely on external circumstances. The benefit is greatest when they are drunk at the source of the spring, always in beautiful, enlivening surroundings. The waters of Carlsbad and Marienbad are too alkaline and too weakening for gastric catarrh. Patients often return from these springs reduced in strength and in digestive power.

I have left to the last the mention of certain drugs which are used for their direct alterative effect on the mucous membrane, because I believe them to be inferior to the other methods of treatment. The chief of these are nitrate of silver, arsenic and oxide of zinc, and I might add bichromate of potassium, which has been recommended to be given in pill, one-tenth grain, three or four times a day. It is too much to expect these drugs to exert any effect on the mucous membrane, when it is covered with mucus, when they do not come in contact with it. When the mucus is removed by lavage they may perhaps be of service. I remember one distinguished practitioner who had a firm faith in nitrate of silver, but it seems hard to believe that one-quarter grain highly diluted in a stomach full of mucus could be of any use. However, it may be that it does more good than I think. When you do use them, wash out the stomach and then try them.

When chronic gastric catarrh is secondary to other diseases, the treatment should be addressed to the primary condition.

BOILED MILK.

BY HENRY ALBERT RUNDLETT, M.D., NEW YORK.

IN feeding infants with boiled or sterilized milk certain facts relating to its constituents and the changes taking place in them on account of and during the sterilizing process are not sufficiently considered. One may say that there is no loss of nutritive value through boiling because there is no destruction and no waste of its constituents. That there is no loss is true, but there certainly is a decided change in the constituent parts of the fluid, one that renders it incapable of supporting life and building tissues. This becomes apparent from the condition of those infants who are fed upon it exclusively.

We have seen children eighteen months old who have been fed upon boiled milk almost exclusively from their birth who were toothless, jelly-boned, and had the fontanelles still open, a condition never seen in children fed upon raw milk either from cows or from the breast. What is changed in the milk by the boiling which renders it an insufficient nutrient and inefficient tissue builder? It is certainly not the albuminous constituents, for these all have the same nourishing quality apparently in the cooked as in the raw state. The fat and the sugar do not change at boiling temperature, and both must

still retain their food force undiminished. This elimination then leaves only the mineral constituent to be considered, and as they are the sole source of supply for nursing infants of the material necessary for the formation of bones and teeth, it is of the highest importance to realize the change produced by sterilization in their molecular form.

In nursing infants we find a normal growth taking place, which, provided the mother is well, is identical in every case, and we can accurately predicate the appearance of teeth, the closing of the fontanelles, and almost the weight to an ounce at any given moment during the growth of the child in the first year. If no vital change took place in milk when boiled this would still be possible, but we know, as a matter of fact, that it is not so. The child may be fat enough, too fat, perhaps, but it has no vital resistance, and the slightest illness may take it off with appalling quickness, as is so frequently noted of babies fed upon condensed milk, which is almost always a boiled milk. What change, then, does take place, so vital, that it changes what is a perfect food into one that does not support life and allow of normal development? It is not in the albumin, fat or sugar, but in the albuminates of iron, phosphorus, and perhaps of fluorine, that the vital changes take place. These albuminates are certainly in the milk, derived as it is from tissues that contain them, and are present in a vitalized form, that is as proteids. On boiling, the change taking place is simply due to the coagulation of the globulin or proteid molecule, which splits away from the inorganic molecule and thus renders it as to the iron and fluorine unabsorbable and as to the phosphatic molecule unassimilable. This is the change that is so vital, and this only, which takes place when milk is boiled. At one time it was considered that the unwholesomeness of the cheap condensed milks, fed to infants, and which were sold under various taking names, was due to the abstraction of the cream, and that the marasmic and scorbutic infants became so because of an insufficient amount of fat in their diet. Hence arose the use of cod liver oil as a specific in marasmus of children. If the cod liver oil was a cold pressed oil, or if a virgin olive oil was used either, the marasmic condition was bettered immediately, whether it was inuncted or given by the mouth. That the fat was lacking is inconsequent, because at need the body will reduce albumin to fat, and we see this done every day as a form of excretion in adults where insufficient oxidation is going on. Why the cod liver and the olive oils were "specific" in their action was when they were taken, not as oils, but as solvents for the complexly organized mineral constituents found in cells of the cod's liver or the olive. To-day we give orange juice to make up for the inefficiency of the milk as food after it has undergone the sterilizing process, or perhaps a little juice squeezed from seared beef.

It seems almost incredible that the healthy development of infants should depend upon the presence, in a living form, of the trace of ferric and phosphatic proteids naturally contained in the milk, which makes up the bulk of their daily food. Why is milk boiled at all? In certain conditions of intestinal difficulties in children it may be best to put a child upon a boiled milk diet for three or four days, but under no circumstances should it be continued. It may be said that the distance from which the milk comes to the city may cause vitiation through fermentation, and it is necessary to kill the germs which cause it, and thus render the milk wholesome again. This cannot be held as a

sufficient reason, for wholly fermented milks, as koumyss, and allied preparations of milk, are not unwholesome nor, if prepared without heat, lacking in nourishment. Soured milk, also, is most refreshing, wholesome and easy of digestion, as all know who have used it, and in some parts of the country it is habitually used during the summer months. It may be said that disease can be passed along by the use of unsterilized milk, and among the laity it is very commonly believed that nearly all the filth diseases may be communicated by it. Of course the best way to avoid this class of diseases is to treat the pump, spring, or other source of water used in washing the cans or other receptacles for the milk, which is now a part of the ordinary routine of every dairy farm. This inspection has been carried so far by the intelligent medical men in the country districts that the horrible work, so frequent twenty and more years ago, of the clear, cool and limpid poison of "the best well" or spring in the country is rarely seen. All diseases due to filth and carried by water can be and, in registered dairies, are completely guarded against by proper inspection and precaution.

Presumably tubercular disease is avoided by a thorough cooking of milk, but the number of cows living in the open and feeding naturally that become tuberculous is of necessity small, and smaller still the number that give tuberculous milk, if the dairies—as they are—are properly inspected and the herds watched.

A tuberculous animal will give unmistakable signs of disease, even as a human being does, and without the necessity of subjecting them all to the tuberculin test. It would be interesting to really know the ultimate effect of these injections in healthy cows and heifers, and in how many tubercular disease appears after their subjection to them. At the time of the craze about tuberculin, in 1890 and 1891, when this product of genius was used indiscriminately as a "cure" for phthisis, most of those persons who subjected themselves to the treatment lived but too short a time to regret it. If all the accounts were true that were then reported, it is certain that acute miliary tuberculosis, or at least a general tubercular infection running an acute course, was the most frequent result of this attempt at "cure." Perhaps it is as true of cows as of human beings, and that a general tubercular infection succeeds these injections for diagnostic purposes, even in those animals where no reaction, so called, is obtained. Septic fever, perhaps, is a better term than reaction and more expressive of what really takes place. The danger to a child of being struck by lightning is almost as great as that of getting tubercular disease from raw milk under the present conditions of supervision and precaution obtaining as to dairy farms and their products, if no tuberculin is used in the unfortunate animals who are the compelled victims of an idea and method the absurdity and danger of which have been proved upon the bodies of thousands of despairing human beings who, in the hope of limiting the inroads of tubercular disease, became parties to their early deaths.

If in the human being these injections have only done damage and have given no results that are otherwise than ghastly, how can anything different be expected in cows? When cows are no longer rendered tuberculous artificially, and proper and frequent examination is made of dairy herds, with elimination or isolation of the suspects, the greatest source of danger from tubercular infec-

tion will be removed. In any case, the problematical danger to children as to all the diseases possible as the result either of impure water or tubercular cows is of more moment as compared with the cell starvation, lack of development and the deplorable lifelong results which persist in consequence of an insufficient amount of food at the crucial period of growth. If it is deemed best to heat milk above 100° F., all the necessary destruction of alien organisms can be accomplished at 140° F. This may be done in an extemporized water bath, and the temperature can be regulated by the use of the ordinary dairy thermometer. If the milk is maintained at this temperature for ten minutes, all danger of infection ceases, and the mineral matter of the milk will still be retained in the complex organized forms found in the living cells from which the milk is derived.

Milk, modified to suit the age of the infant and raised to the temperature of the body, is best; but if one must sophisticate Nature's work, heat only to 140° F. for ten minutes, and do not utterly destroy it by the boiling process.

Better development, greater vigor, brighter minds and quieter and less fretful children will be among the results of using uncooked milk, either wholly or in part, as the food for infants.

TUMOR OF THE SUPERIOR PARIETAL CONVOLUTION ACCURATELY LOCALIZED AND REMOVED BY OPERATION.

BY DR. CHARLES K. MILLS, M.D., AND W. W. KEEN, M.D.

THIS case was of unusual interest from the clinical, physiological and surgical points of view. The medical history of the case was presented by Dr. Mills; the surgical history by Dr. Keen, and a pathological report on the nature of the growth by Dr. William G. Spiller.

The patient was a man 56 years old, who had had some neurasthenic and other symptoms since 1884, but who first began to have parasthetic attacks affecting his right upper extremity in 1894. These attacks were of irregular and infrequent occurrence, and were variously described as ant-like feelings, of crawling, tingling or battery sensations. After the attacks the arm usually felt somewhat heavy. He frequently complained of a feeling of pressure or discomfort in the head and especially in the left frontoparietal region. Sometimes this feeling was described as a headache, but he never had the typical headache of a case of brain tumor. Optic neuritis was absent from first to last, and vertigo and vomiting were so infrequent as not to call for special consideration. The patient was frequently hysterical and despondent.

About five months previous to the operation the patient began to show some ataxia in the right arm and later in the right leg, and when investigation of his condition was first made by the writer all forms of cutaneous sensibility were impaired, muscular sense was lost, and astereognosis was a marked symptom. As the case progressed paresis and eventually paralysis of the arm and leg supervened, this, when complete, of course, making the ataxia. The patient developed a disorder of speech, chiefly showing itself as a verbal amnesia and fatigue on reading. At one examination the patient showed a temporary partial right hemianopsia. Reversals of the color fields and contractions of the fields for form similar to those supposed to be typical of hysteria were present at several of the examinations. The reflexes on the

ataxic and paralyzed side were somewhat exaggerated, ankle-clonus being present. The patient was emotional and markedly hysterical.

An operation, which was successfully performed by Dr. W. W. Keen, November 24, exposed a tumor in the exact region which had been assigned as the seat of the growth—namely, the superior parietal convolution.

The patient made a complete surgical recovery, and improved in all his symptoms with comparative rapidity. His speech completely returned, the paralysis of the leg and arm largely disappeared, and cutaneous sensibility was in time restored. He was seen last by Dr. Mills, April 24, just one week before the meeting of the Congress. He has regained all the movements of the extremities on the affected side, although he has not full strength in the affected limbs. The muscular sense, especially in the lower extremity, is still somewhat impaired, as would be expected from the tissue lost by the encroachment of the growth.

TUMOR OF THE SUPERIOR PARIETAL LOBULE ACCURATELY LOCALIZED AND REMOVED BY OPERATION WITH COMPLETE RECOVERY, MENTALLY AND PHYSICALLY.

BY PROF. CHARLES K. MILLS, PROF. W. W. KEEN, AND
PROF. WM. G. SPILLER.

SURGICAL REPORT BY DR. KEEN.

As the flap was not to be in the thin squamous portion of the temple, but in the parietal, which might cause great embarrassment from a very thick skull, not only by the time required to chisel through the bone, but the difficulty of fracturing the base of the osteoplastic flap, Dr. Keen first made two trephine openings 5 cm. in diameter at the two points between which he wished to fracture the flap. The skull was found, as had been feared, unusually thick, a full centimeter. This being the case a Gigli wire saw was passed between the two points and the bone sawn half through in order to weaken the base of the flap. A large flap, each side of which measured 10 cm. long, was then made, the anterior border of it being a little in front of the fissure of Rolando; the upper border within 1 cm. of the median line.

As soon as the dura was exposed at the lower portion fluid was suspected beneath it. A dural flap was then cut, with the base upward. The tumor suddenly came into view at the anterior superior angle. It measured 5.5 cm. by 4.5 cm. and weighed one ounce and three drams after removal. It was made up of small granular masses like those of an ordinary raspberry and was of a deep red or purple color. In order to remove the entire tumor a portion of bone was removed by the rongeur forceps anteriorly. The tumor had begun as a sub-cortical mass and recently burst through the cortex. The tumor, being separated from the brain tissue, was removed, and with it a long finger-like cyst, which extended, by measurement, 10 cm. (four inches) into the substance of the brain and contained one and a half to two ounces of fluid. The patient made a complete and very smooth recovery, the wound being entirely well by the sixth day. On February 23rd, just three months after the operation, he walked up the steps of the hospital with just a perceptible limp, shook hands with ease with his right hand, his speech was entirely normal and his mental condition excellent, and a week later he started on a pleasure trip to the Mediterranean and Egypt.

TRANSLATIONS, ETC.

CONSCIOUSNESS IN SURGICAL ANESTHESIA.

For a number of years, in France and in the principal countries of Europe, as well as in America, various laboratories have been established for the purpose of promoting psychological studies. These are well supplied with very ingenious instruments, and there has been a remarkable accuracy in the registration and reports of the methods and measures adopted, and researches of great interest have been diligently pursued. And yet there seems to have been no great progress made in the psychology properly so called. Only the physiological manifestations of psychological phenomena have been obtained, to the neglect of the infinite variety of facts presented by clinical medicine. Exception may be made in the case of the "Psycho-physiological Institute of Paris." These researches have been followed by individuals affected with nervous troubles, and, thanks to hypnotic suggestion, their conditions have been experimentally modified. Among others in France, M. Philippe has acquired distinction and especially competent authority in the manipulation of psychophysic agencies. He has learned, too, the necessity for medical study, which has endowed him with a very high degree of true psychological experimentation. How does consciousness disappear? he asks. The study of surgical anesthesia supplies the answer. It manifests in the living the successive phenomena of consciousness to the point of intellectual death, and, like hypnotism, it dissociates functions that have been hitherto co-ordinately united. In order to explain, in a masterly manner, what becomes of consciousness in surgical anesthesia, M. Philippe criticises, as is proper, the different works that have already appeared upon this subject, and utilizes the material furnished by such observers as Gerdy, Dufour, Lacassagne, Hermann, and especially his own observation during the hospital service of M. Reclus. The action of anesthetics extends to all the vital phenomena. Among the physiological effects, the following are the principal. The respiratory rhythm is accelerated and irregular, pulse more feeble and less frequent, arterial tension and temperature abated, blood becomes black, diminution of red globules, increase of white: these phenomena are well known. The accompanying psychological phenomena may be ranged chronologically into four groups: First, heaviness or dullness, numbness or torpor; second, dissociation and abolition of the different forms of sensibility; third, loss of consciousness; fourth, muscular relaxation, or the anæsthetic of motility. The cutaneous sensibility is the first to be affected, and delicacy of touch is at once lost, next sensibility to pain and to heat and cold. Then the grosser touch or sensibility to contact. This anesthesia proceeds from the extremities to the trunk, then it affects the upper part of the thorax, and the abdomen, then finally it circumscribes the cephalic region, the neck, forehead, the left temple, afterwards the right. A very curious fact, and little known: the sensibility does not give way from the two sides at the same time, but the hemianesthesia is established first on the left, and extends by degrees to the right. The last organs affected are the cornea, and the part of the buccal mucous membrane near the canine teeth, when these points are touched, the anesthesia is complete. In the same order, the loss of sensibility involves muscular relaxation. The masseter is the last muscle to yield, and pupillar reflex continues to the end. At a more advanced degree of the anesthesia, the gen-

eral sensibility disappears, then the insensibility necessary for the surgeon is complete. There sometimes, however, remain traces and residua of tactile sensibility, and a certain profound and muscular sensibility. As regards the special sensibilities, they are less spontaneous, and yield later at the time of muscular relaxation. This condition continues long, tremulous vibrations similar to those received by the touch from a vibrating body or a large sonorous clock, are heard. These acoustic phenomena, in the majority of persons, seem to constitute the foundation of anaesthetics, and they assume importance in proportion to their progress. They seem at first as though the tympanum was put in vibration with roarings, sounds of clocks, incessantly increasing to a volley of sound, sometimes aggravated to a crash, and again attenuating in rhythm, ending finally in sleep. These roarings continue some time after general cutaneous anaesthesia. Vision, too, preserves some functional action, surrounding objects begin to be agitated, and a thin veil intervenes between the exterior world and the visual sense. The other senses yield by degrees, taste, sensibility to tickling, perception of odors, &c. If creosote be presented, in the case of chloroform, the substitution is not perceived. In fine, in the gradual enfeebling of the senses, almost to obliteration, all are overwhelmed by the power of the acoustic sounds. Anaesthetic force then consists in isolating the patient from the external world, and the dissociation penetrates to the psychic domain properly called, thus effecting an anaesthetic separation from himself. Lingual difficulties manifest themselves, words fugitive or incapable, evanescent ideas, and, if thought is possible, it is maintained with great difficulty. Sometimes there is an increasing diminution of attention and an impossibility of fixing it, sometimes a feeling of absolute physiological impotence, as if all the organs were removed, and all physical and moral action had become impossible, perhaps it is this feeling that renders anaesthesia so agonizing to certain persons. "The transition is marked by, as it were, an explosion of pulsation of the heart and arteries, at the same time an unusual noise fatigues the ear, like that of a bell in sonorous vibration," says Dufour. "Then a gradual descent to an abrupt termination, and after that nothingness, a consciousness of death without the exhaustion of long disease." This occurs in two different ways, either by the generalization of a single sensation, so intense that every other is suppressed, or because every other is suppressed, and the whole attention is absorbed to the point of annihilation, or by taking away possession of the different organs, of the intellectual functions, and reserving those that accomplish the automatic-surgical anaesthesia is generally considered as complete annihilation, without sensation or perception. But if there be a total abolition of consciousness, recovery from this would be a veritable resurrection, an awakening from nothingness! The patient reacts to certain impressions. Sometimes, in general anaesthesia, functional associations and the imagination continue their work, and consciousness reappears suddenly without the return of pain or the different sensibilities, and all these may alternate sometimes with one faculty or with another.

Every time in the course of anaesthesia that there is a marked manifestation of consciousness, forgetfulness is undoubtedly complete at the awakening, or soon after. The patient understands, but does not remember what he has understood. He speaks, but does not know what he has said; he sees, and loses the remembrance of what he has seen. This amnesia is cited as proof that con-

sciousness is totally abolished during surgical anaesthesia. But it is not right to measure the whole mental capacity by that of memory, and it is wrong to conclude the abolition of memory by that of consciousness. Indeed, it is well known that, thanks to hypnotism, from the depths of sub-consciousness, memories may arise that consciousness totally ignores. Again, hypnotic sleep gives new birth to the memory of condition of consciousness occurring during previous surgical anaesthesia. It would then be false to pretend that the degradation of memory is to be measured by that of consciousness. Such are the value and the fruitfulness of psychological researches to be derived from medical facts.—*Revue des Hypnotisme.*

—An instance is related of a young married couple from distinguished families, both husband and wife of high moral character and apparently perfect physique, an ideal love match in every respect. Two months after marriage, coitus, before the menstrual period had quite finished, resulted in a slight excoriation of the penis from which a typical syphiloma developed, followed by the classic syndrome of syphilis, requiring specific treatment for several years before the youth and fine constitution of the man finally conquered it. The most searching investigation failed to disclose the slightest clue for the infection, except a record of possible syphilis in the young woman's father and four abortions preceding her birth. The young husband refrained from intercourse with his wife until completely cured, and she has never shown any sign of syphilis at any time. A child has been born to them since, the picture of health. Is it possible, Zagato queries (*Gazz. degli Ospedale*, March 25), that inherited syphilitic infection could have remained latent in the young wife, and, becoming exceptionally virulent in the menstrual discharge at one time, have infected the husband?

—Roberts (*Med. Brief*) was called upon to treat a lady, aged sixty-five, who was seized with symptoms of dementia, characterized by intense restlessness, mutterings, distrust of her relatives and an idea that she was reduced to absolute poverty. A local examination revealed the presence of an enormous mass of hardened excrement impacted in the rectum, which had ulcerated through the recto-vaginal septum. This mass was removed and in forty-eight hours the patient was perfectly sane.

—In the hypnotic state many truly wonderful cures have been made. Prof. Santanelli relates a case of a man suffering from insomnia who went into a sound slumber because he was made to believe that laudanum had been administered, and another case where an amputation of the left foot was necessary. The patient, being old and feeble, the application of anaesthetics was hazardous. The man was made to believe that he had lost all feeling in the left foot and the member was amputated without causing pain or shock.

—We notice that our great medico-literary authority, the *Philadelphia Medical Journal*, makes use, in a recent editorial comment, of the expression "equally as important." Is the middle word in this phrase any less superfluous than the "al" which the *Journal* has taught us to eliminate from sundry adjectives, when preceded by "ic"? Is it not, moreover, a positive (and peculiarly American) solecism?

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In the woods is perpetual youth. Within these plantations of God, a decorum and sanctity reign. In the woods we return to reason and faith.—EMERSON.

THE RECENT INSTITUTE MEETING.

THE recent meeting of the American Institute was one of the most important and interesting in its history; and the Hahnemann statue then unveiled will give due and deserved prominence to this great teacher and leader.

In this connection, it is very much to be regretted that our report of this meeting, which was prepared just as we were going to press, should have been accidentally omitted from our last issue.

SCIENTIFIC TRAINING A PASSPORT TO SUCCESS.

LEGISLATION has done much to improve medical education and build up a higher standard in the profession. The idea formulated by Regent Watson through the State University of a literary and scientific examination of a character sufficient to ensure admission into any literary college, before being accepted by a medical college, and a final examination by a board of examiners appointed by the State before receiving license to practise medicine, as a law of the State, carried out in its entirety and from which there can be no departure and no favor shown to any one, is already manifesting its good effect in the increased intelligence of those entering the profession and the better work being accomplished. For this advancement towards a higher plane of education, based upon science, the world is grateful, but it would be still more grateful if the work commenced at an earlier date and the early education of the child was based upon organized knowledge, to which has been given the name of science, which should take the place of much that is speculative and theoretical—a poor guide to the intelligent conduct of life. No one can estimate the amount of suffering which could be avoided, the lives spared, the ratio of human life measured,

the crime prevented, and all the elements of a healthy, intellectual, social life brightened and strengthened, if physics, chemistry, hygiene, biology and physiology should form a part of every well-ordered system of education, and especially in childhood—taught understandingly, so that there should be no intellectual dyspepsia from undigested words. It is too late to wait until the student enters a medical college or a university to familiarize himself with the microscope or with chemical experiment. For these, as well as for other scientific lines of thought, hands and eyes and brain must be alert during the formative period of youth. It is true that such men as Faraday and Huxley, to a certain extent self-taught, have become brilliant leaders in the world of science; but how many men, lacking the training of scientific methods in childhood and adult life, have reached but little higher than mediocrity?

Among the masses in city and country, who have had what is called a fair common school education, how many are familiar with the correct principles of hygiene, with which every one should be familiar? And why? Because physiology, properly taught, has not been one of their elementary studies. Hygiene is applied physiology, but to be intelligently applied physiology must come first. What must we think of the children when the father and mother are ignorant of the basis of well being? Just what we often see—sickness, early death and neglected and wrongly educated children. An understanding of elementary principles, which should be taught in every school, would show that bad food, bad air, dissipation and vice would violate physiological laws and be followed by a penalty which would in most cases take a deeper hold on the mind than temperance lectures or much of the instruction from the pulpit. The fact would be indelibly impressed on the mind that whatever a man sows, that he must also reap, as a natural result, not as the special act of God. There is no doubt that schools and colleges, and especially medical colleges, are responsible for a great deal of folly and undigested instruction, to the detriment of the student. The teachers themselves are often half taught, or have but little idea how to present facts in an acceptable manner. Many teachers have never clearly comprehended a truth in their lives. Their teaching is often misleading and comparatively worthless, and might be described as diarrhoea of words and a constipation of thought. Emerson once wrote: "It matters little what your studies are; it all lies in who your teacher is." This is only true in part, but it is true that a great teacher thoroughly understanding the subject, impresses it upon his pupils with an irresistible force. One of the best teachers we ever knew was thoroughly hated for his entire lack of sympathy and iron discipline, but his instruction was never forgotten. The best teacher is one who comes the nearest to the student and who is in mental touch with him. And here is the danger of

teaching in large classes, either in college or in public schools. They should be so divided into classes that, to a certain extent, each pupil is personally known to the teacher. Uchimura, in speaking of education in old Japan, says: "We were not taught in classes then. The grouping of soul-bearing human beings into classes, as sheep upon Australian farms, was not known in our old schools. Our teachers believed instinctively that man must be dealt with personally—face to face and soul to soul. So they schooled us one by one, each according to his idiosyncrasies, physical, mental and spiritual. They knew each one of us by name, and, as asses were never harnessed with horses, there was but little danger of the latter being beaten down into stupidity or the former driven into valedictory graves.

"The relation between students and teachers was the clearest one possible."

Is it not true that when the idea of education given by Uchimura of education in old Japan prevails in this country, of the teacher being brought into close relationship with the pupils, the best results are obtained? Discussions on philosophy and theory may be given to the masses. They are often but little more than flights of poetic imagination, containing but a few kernels of real science.

Science, with logical precision, goes to the very root, with an analysis to the honest, cultured mind so clear that the conclusions are irresistible. And in proportion as the true scientific spirit prevails among honest, thinking minds, castes and conventions disappear in one universal brotherhood. Sects vanish, and a union of all schools may meet, not always in entire harmony, but sufficient for active co-operation under the name, perhaps, proposed by Surgeon-General Sternberg of School of Scientific Medicine.

THE KNICKERBOCKER LODGE.

THE prayer of Cowper for a lodge in some vast wilderness where rumor of oppression might never meet him more, was reiterated with intense fervor by one of the leading brain workers in New York, as the throbbing head and weakened limbs told him that mind and body were yielding to long-continued work. To Cowper's prayer was added, "where the weary brain can rest and the ever-throbbing pulse of the great artery of business life may fail to reach me." Up among the Beacon Hills, in the old historic town of Fishkill, in Dutchess County, so full of Revolutionary memories, this seeker after rest found a little summer hotel by the side of an artificial lake of the purest spring water, looking out over a landscape of quiet, restful beauty, the eye limited in its vision only by the Catskill Mountains some forty miles in the distance. Here was the rest for which this tired brain worker had so eagerly sought. And no wonder, as the brightness, the vigor and the energy of healthy life returned, he shouted

with the old Greek philosopher, "Eureka! Eureka!" What had proved such a Mecca to him he hoped might be of equal service to that great throng of brain workers for whom the Pharmacopœia of the physician has no efficient remedy. And so he purchased the place for which nature and art had already done so much, and with artistic taste fitted it up with all the comforts of a refined and cultured home, changed its character from a summer hotel to a restful home, with every room abundantly supplied with the purest spring water, ever flowing cool and sparkling from the mountain side, open all the year round, and cordially invites those who need rest rather than drugs to get away for a time from the treadmill of life to share with him this ideal home in nature's sanitarium. The thought which the proprietor of Knickerbocker Lodge has so admirably worked out, and with such rich promise of success, has seemed to us such a departure from the old idea of medical sanitariums, with their staff of physicians and their drug and medicinal appliances, and appeals so strongly to common sense that we feel that we are doing that great class of sufferers who have sought for rest and found it not a favor in calling attention to the idea which the proprietor of the Lodge is developing with so much beauty and success.

THE ORIGIN OF LIFE.

D R. WILSON, of Columbia University, in discussing the origin of life and heredity in the *International Monthly*, refers to the recent discovery of Loeb, carried on last year at the Wood's Holl Biological Laboratory, following in logical sequence those of Richard Hartwig and Morgan, that the egg may be fertilized by chemical stimulus without the participation of male element. Large numbers of perfect larva were produced from eggs, which, without fertilization, were first treated with a weak solution of magnesium chloride and then transferred to normal sea water.

The decisive experiments show, says Prof. Wilson, that the egg is capable of complete development, without union with spermatozoön, as a result of chemical stimulus; and they indicate that even in normal fertilization we must regard the stimulus to development as being by a specific substance carried by the spermatozoön.

Loeb's experiments with those of Herbst indicate that the normal equilibrium of chemical conditions in the protoplasm are maintained by the conditions of the environment. The experiments give ground for the remarkable conclusion that the substances dissolved in the sea water are individually poisonous to the egg, but are normally so balanced as to neutralize one another's injurious effects and maintain the equilibrium of the egg. If this armed neutrality be disturbed, the egg responds, undergoing changes and dying if the change be too violent, passing through an abnormal development and giving rise to monstrous

embryos if the new conditions be less favorable, but under appropriate stimulus, being, as it were, released from bondage and rendered free to run its normal course of development.

The *Popular Science Monthly* for June, in speaking of Loeb's experiment, says eggs thus treated segmented and underwent a development which, though somewhat slower than usual, was otherwise normal and produced perfect larva. This effect cannot properly be called fertilization in the ordinary sense of the word, but is rather to be regarded as artificially produced parthenogenesis—development of ovum without fertilization.

It points out unmistakably, however, that in normal fertilization the spermatozoön incites the egg to development by bringing to it certain definite chemical substances.

THE DUTY OF OUR PROFESSION IN THE PRESENT CRISIS.

THE opening of a new world in the West Indies, Honolulu and the Philippine Islands, not only to our commerce but to the educational influence of every department of science and intellectual culture, reminds our profession that it has a great mission to perform in this crowning work of the ages—the emancipation of thought, the triumph of liberty and the development of the intellect in that broad avenue of justice to all, now opened under the protecting care of the young republic of the West. To solve the problem of intellectual development with which we are brought face to face in the new territory, with its millions of human souls, which has recently been brought under our care, and for which we are to a certain extent responsible to the world, is no easy task. The mind, enslaved for so many centuries, but be taught by a most thorough training how to develop and exercise its powers in the direction of that self-control, that ripening of thought and energy leading to the happiness and prosperity of all. The great problem we are called upon to meet requires the most earnest and enlightened effort, not only of statesmen—for they simply open the way and give support by wise legislation—but of educators generally, and especially those in our profession.

The resources and possibilities of the Philippine Islands in their soil and their races are but little known to us and are beyond our comprehension. Much elementary work must be done in a study of the soil, the climate and the peculiarities of the races which inhabit the different parts of the islands, which will be utilized by the physician, who should be a sanitarian in the broadest sense of the word, in the study of the cause of diseases which are, in a certain extent, peculiar to the life and surroundings of the people. The great missionaries to whom the world must look for the intellectual development of the races in the Philippines are the missionaries of health, working intelli-

gently in the nursery of physical and intellectual development and utilizing all sciences which can be brought to bear in so harmonizing the forces of nature as to neutralize or prevent the formation of those poisons so destructive of human life and so paralyzing to the vital forces of human organizations. The curriculum of study of all our medical colleges fails in a most important particular in meeting the actual necessities of the conditions now demanding our attention in the tropical regions recently brought under our control. In every medical college should be incorporated a chair for the study not only of tropical diseases, but of the causes leading to them; to the magnificent flora so rich in the remedial agents most effective in antagonizing the diseases arising from the poisons exhaled from the festering soil, and the inauguration of a sanitation of the most scientific character.

These are among the first steps to be taken in the mental and physical emancipation of this new territory, in which our profession must be ready to do its full share of work.

It is doubtful whether the plan adopted by the Liverpool School of Tropical Medicine to educate young men from the British and other colonies in Africa in medicine and surgery will be successful on account of its great expense, \$8,000 being required for each student for a five years course. This, however, includes not only all expense in England, but a free transportation both ways. Arrangements have been made with one of the steamship companies to take young Africans at a low rate, and the Liverpool University College, the Royal Southern Hospital and the School of Tropical Medicine are all to have a part in the work of training the young men into doctors.

AMERICAN INSTITUTE OF HOMŒOPATHY.

THE meeting of the American Institute at Washington was at least a social success, most satisfactory in every respect. The unveiling and presentation of the Hahnemann Memorial in Scott Circle, one of the most artistic monuments in the city, naturally attracted a large number of ladies, the wives and daughters of the members of the Institute, who were treated royally by the local ladies' committee. The visiting ladies were taken about the city in automobiles, and on Friday evening treated to a musicale of rare excellence in the banquet hall of the Shoreham. The literary features of the Institute were of the usual character.

Dr. Hanchett, chairman of the committee on interstate work, introduced the following preamble and resolution:

"Whereas we are convinced that the present system, or lack of system, of independent and separate State medical legislation is not qualified either to conserve or to advance the best interests of the medical profession, or to protect the community against im-

position, and whereas we believe that a system of interstate comity should exist through either national legislative provision or through the enactment of individual State laws, and whereas it is obvious that legislation of such character can only be secured through the harmonious and concerted action of the three prominent branches of the medical profession, therefore be it

"Resolved, That a committee of five be appointed by the president of the American Institute of Homœopathy to be designated the committee on national medical legislation of the American Institute of Homœopathy, the duty of which shall be to open communications with the National Medical Association and the National Eclectic Society, for the purpose of securing co-operation in an effort to obtain such national or interstate legislation as will be mutually satisfactory to the organizations concerned."

The preamble and resolution were unanimously adopted. Dr. Bigger, of Cleveland, chairman of the committee of medical education, introduced the following resolution which was unanimously adopted:

"That we urge and advise the medical profession to make every honorable effort for a national law providing for all schools of medicine a minimum uniform course of study or matriculates for the intermediate years and the final examinations, except such subjects as refer to the teaching of theory and practice of materia medica of different systems of medicine, and that the length of the course of study shall be the same in all colleges."

The exercises at the unveiling and presentation of the statue of Hahnemann, at which President McKinley and many of the heads of departments were present, was a marked success.

THE LEPROSY PROBLEM.

THE prophylaxis and control of leprosy in this country was ably discussed by Dr. P. A. Morrow before the American Dermatological Association at its last meeting. While the author did not pretend to solve the question, he certainly presented a very clear statement of the situation, and offered many practical suggestions in the direction indicated. The Chinese are charged as being the most active disseminators of the horrible malady.

The leprosy of this country, with the exception of Louisiana, is said to have come from immigration, and Dr. Morrow naturally proposes to stop the supply at its source as far as possible; but the incipient cases will slip through and must be provided against. Of the 26,000 Japanese laborers landing in Hawaii, who were examined before leaving their own country, only six cases of leprosy have developed, showing that there should be international co-operation between Governments in respect to this disease. Dr. Morrow advocates a rigid land quarantine, as well as seaboard, the whole length of our borders.

There seems to be no organized or systematic effort on the part of our health authorities for the control of leprosy, and Louisiana is the only State which has

made special provision for the care of these unfortunates, although its effort at segregation is said to have proved substantially a failure.

The disease is alarmingly on the increase in Louisiana, with a large proportion of indigenous cases.

Dr. Morrow thinks that the disease is slowly gaining ground in this country, and for this and other reasons his conclusion is that the control of leprosy in this country should be committed to the National Government, a measure, he argues, that no State would object to.

The object is therefore two-fold—the protection of the public and the welfare of the leper, and to meet this Dr. Morrow says isolation or segregation undoubtedly represents the most effective means known to sanitary science for the control of this and other contagious diseases. For the practical enforcement of this sanitary scheme, the co-operation of the profession in reporting all cases of leprosy coming under their personal observation is, of course, essential.

But to report a case of leprosy, with the certain knowledge that the patient would be promptly immured in a pest-house or confined like a criminal, is abhorrent to every sentiment of humanity.

Until proper provision is made for the care and medical treatment of lepers there can be no cordial co-operation on the part of the profession.

The contagious mode of leprosy is not like that of an acute infectious disease—smallpox, for example—but rather like that of tuberculosis or syphilis, depending upon the form and stage of the disease, the conditions of contact, etc. If these conditions are absent or can be controlled in the case of the individual leper, there is no risk of contamination. "I do not, therefore, believe," says Dr. Morrow, "that every leper found in the United States should be subject to compulsory segregation, irrespective of the form and stage of the disease and of his social and material circumstances." There would seem to be no reason to fear that an anesthetic leper in whom the bacilli are few and deeply lodged in the nerves, with no chance of their elimination through broken or ulcerated surfaces in the nose or elsewhere, will communicate his disease. If his material circumstances are such that he can live by himself under proper surveillance, provided with a separate room, bed, board, etc., and does not come in intimate contact with others, he is practically innocuous. Otherwise, asylum is the only hope.

Dr. Morrow has given his views of what an asylum to be provided by the National Government should be in "Twentieth Century Practice of Medicine," and his suggestions seem to be safe and practicable.

One condition which would promote the success of segregation is the removal of the popular prejudice and insensate fear of the disease which, deeply rooted in the ignorance and traditions of the past, still survive. The public should be enlightened upon these points, and it looks to our profession to do this.

SURGICAL ANESTHESIA AND ANESTHETICS.

ERNEST J. MELLISH (*Medicine*, Nov. and Dec., 1899), after an extended review of this subject, embodying the latest opinions of American and European authorities, together with the results of his own clinical experience, presents the following conclusions:

1. Chloroform almost invariably kills by its effect primarily upon the circulatory system, and ether by its effect primarily upon the respiratory system. There probably are exceptions to both these rules; consequently, hair-splitting discussions on this point are unpractical and useless.

2. In anemia of the medulla the patient should be placed in the head-down position.

In sudden paralytic dilatation of the right heart, as after several deep inhalations of chloroform, the heart should be rhythmically compressed by squeezing the chest; or the patient placed temporarily in the feet-down posture to empty the heart, artificial respiration being constantly maintained.

3. Anesthetics act directly or indirectly upon all the tissues, interfering profoundly with metabolism; and they tend to produce degenerative changes in the tissues, especially of the vital organs. Of the anesthetics in general use, chloroform is probably most dangerous in this respect.

4. Deductions based upon laboratory experiments are apt to be deceptive, and should be accepted with the greatest caution as applicable to sick human beings, unless they agree with conclusions based upon clinical investigations.

5. As a rule ether produces less circulatory depression than chloroform. It causes dilatation of arterioles and increased capillary circulation, thereby insuring a good blood-supply to the circulatory and respiratory centres and to the heart muscle; consequently these systems are in less immediate danger than with chloroform.

6. Cocainizing the nasal mucous membrane to antidote certain bad effects of anesthetics is not commendable practice.

7. On account of the reduction of body heat by anesthetics, they should be administered in a warm room, and the patient should be protected from loss of heat so far as practicable by proper covering of the body, by application of artificial heat, and by protection from dampness of skin. An excessively high room temperature will do harm by adding heat depression to anesthetic—and operation—shock.

8. Ether, when properly administered, is no more liable to produce nephritis than chloroform, perhaps not as much so. The changes produced in the kidneys by ether are as a rule temporary, while those caused by chloroform are apt to be more persistent.

9. Most of the pronouncedly dangerous effects of ether, and to a less extent of chloroform, upon the kidneys are due to poor preparation of the patient, faulty administration, bad after-treatment, or all of these combined.

10. Postanesthetic nausea is best prevented by preparation and after treatment which favor normal physiologic tonus, with especial reference to the emunctories. Gastric lavage at the termination of anesthesia, followed by vinegar inhalation, will, in the great majority of cases, prevent serious disturbance from nausea.

11. The danger from hemorrhage is no greater with ether than with chloroform, perhaps not as great, since

the bleeding which occurs from the effects of ether is primary and is more certainly provided against, whilst the circulatory depression and vasomotor constriction due to chloroform to a great extent prevent primary bleeding and lead indirectly to later hemorrhage.

12. The safety margin between sufficient chloroform for anesthesia and the lethal dose is much narrower than it is with ether.

13. Patients should be well fed with easily digested and non-bulky food to within a few hours preceding anesthetization, and should be allowed water to within two or three hours of it. If this plan is followed shock will be less and elimination of the anesthetic will be more rapid, and with less harm to the emunctory organs. For the same reasons water should be given as liberally as practicable after anesthesia.

14. Machine methods in selecting anesthetics should be avoided as far as practicable, the anesthetic being selected according to the conditions present in the individual case.

15. Any anesthetic, but especially ether, should be given with the greatest caution in the presence of special susceptibility to acute bronchial or pulmonary affections.

16. Further clinical investigation in the use of nitrous oxide is desirable and necessary, in order to establish its status in relation to surgery. But its general employment is not practicable.

17. The majority of inhalers on the market are bad. An inhaler made on the principle of the Esmarch chloroform mask is the cleanest, safest, and best for ether as well as for chloroform. However, the "open method" of administering ether is not practicable in the tropics, in high altitudes, nor in open-air military surgery, on account of too rapid diffusion.

18. The ordinary tongue forceps is a barbarous instrument and is often barbarously used.

19. The mouth-gag can usually be dispensed with; its use is often positively dangerous from forcing the base of the tongue against the pharynx.

20. The post of anesthetist is second only in importance to that of the operator, and the selection of an anesthetist should be made with great caution where possible.

No person who has not a wholesome fear of anesthetics can be trusted to administer them. Beware of one who believes any anesthetic to be perfectly safe.

21. The anesthetist should gain the complete confidence of the patient as to his ability and carefulness, so that the mind will be at rest on these points.

22. Patients who greatly fear anesthesia are the ones likely to give the most trouble to the anesthetist.

23. Other things being equal, the intelligent and educated take anesthetics better than those of low intellect.

24. The patient should be kept as free as possible from unnecessary noise and other disturbances during the induction of anesthesia.

25. The pupillary reflexes constitute the best guide to the presence or absence of surgical anesthesia.

26. The anesthetist should watch carefully the pupils, pulse, respiration, and the color and condition of the skin, depending upon no single symptom as a danger signal.

27. The patient should be carefully watched from the beginning of the anesthesia until fully restored to consciousness.

28. When anesthetics are properly administered patients seldom struggle.

29. Noisy breathing during anesthesia should be the exception, as it generally means faulty administration.

30. The minimum amount of anesthetic should be given consistent with the production and maintenance of the desired degree of anesthesia.

31. Compression of the phrenic nerve will, if properly done, usually control retching and kindred symptoms occurring during anesthesia.

32. The use of drugs preceding and during anesthesia should be avoided save where positively indicated, and if resorted to they should be used with the greatest care. It is best to depend almost wholly upon other means for the prevention of syncope or to resuscitate.

33. Anesthetic mixtures are in general less safe than the "straight goods." One cannot know the relative proportion of the different components that the patient actually inhales.

34. Partial or "talking" anesthesia is advisable in some cases, but should be avoided in delicate or sensitive patients, especially for prolonged operations, unless taken quietly and with apparent abolishment of pain sense.

35. Finally, the subject of anesthesia and anesthetics should be thoroughly treated in medical colleges, and each student required to conduct a number of anesthesias under the supervision of an expert.

ICE IN SEASICKNESS.

AMONG the innumerable remedies, do not forget a Chapman's ice bag, applied to the nape of the neck during the continuance of the attack. An ordinary rubber bag will answer. The beneficial effects obtained from the use of ice applied to the spine in spinal irritation, and to other portions of the body in irritable conditions of the circulation, and especially of the nervous system, has suggested recently its use in seasickness. The pathological condition developed in this most uncomfortable sickness it has been found in many cases has been promptly relieved.

SUNLIGHT.

ATENTION has been called by many scientific investigators to the action of the different colors of the spectrum of sunlight in the cure or relief of varieties of disease. The results thus obtained have been so manifest as to show in a marked degree that the actinic or chemical rays of sunlight are vital to the chief function of plant life and, to a certain extent, of human life.

In the spring and summer it has been noticed that the order of color in flowers arranges itself closely in accordance with the order of the colors in the spectrum, beginning with the blue end.

In reference to this fact, Mr. Bacon, in an article in Macmillan's Magazine, says: "It is true that the first blooms of all, those that have appeared by February, are whites and yellows, but those can almost be counted on the fingers of one hand, while by March the whites and yellows are running level, with reds and purples scarcely showing.

"Then the blues forge ahead, and by May nearly half their number have bloomed, while of the whites about one-third and of the reds and purples only one-quarter. The next month, however, when the sun attains its greatest altitude, the case entirely alters.

"Of the blues and the whites seven-tenths have appeared, as against six-tenths of the remaining colors, a difference which in July has virtually ceased to exist. All colors then run neck and neck to the end of the season, the whites alone slightly leading."

ANIODOL.

M. SEDAN, of Marseilles, has recently introduced an antiseptic under the name of Aniodol, which he claims possesses remarkable power as a safe and always reliable antiseptic and an excellent deodorizer, even the most fetid cancerous or gangrenous wounds yielding promptly to its action and becoming odorless. This new product is essentially composed of a solution of trimethanal. In a solution at one-hundredth it destroys, within five minutes, nearly all the microbes; at 1-10,000, or even at 1-20,000, it sterilizes any center whatever. The exact bactericidal proportion has been fixed by M. Mérieux, director of the Pasteur Institute at Lyons, at 1-5,600. But numerous experiments prove that Koch's bacilli, contained in saliva, are destroyed in six hours by a solution at 1-500, which is a very satisfactory result.

It is of the first necessity to be exactly fixed as to the doses to be used. Doses that are too strong will sterilize a wound, but will dry it and prevent it from cicatrizing. A moderate dose, 1-4,000 to 1-3,600, on the contrary, acts extremely well. For the nostrils or mouth, a solution at 1-15,000 at the least and 1-3,000 at the strongest, produces complete disinfection. For the hands and surgical instruments a proportion of 1-2,000 generally suffices.

THE effect of stagnant water on fish as it mingles with large bodies of pure water, and its comparative harmlessness when drunk after being filtered, is one of the strange facts for which we cannot account. One would suppose that a fluid which would be destructive to fish could hardly be drunk with impunity even when filtered.

Cutting the Scud on the Upper Nile has released a mass of long standing water which is working its way down the river, killing the fish as it goes.

At Asonan, where the great dam is being built, the dead fish have been cast ashore by millions, poisoning the air with their decomposing odor. The Nile water is all the workmen have to drink, and though when filtered it is not only pleasant to the taste and has no ill effect, yet if eels are plunged into the filtered water they die, apparently from suffocation, in a few moments.

OBITUARY.

Dr. Alexander J. C. Skene, an eminent surgeon and gynecologist, of Brooklyn, died July 4 at his country residence in the Catskills of heart disease at the age of sixty-two years. Dr. Skene was for a long time dean of the Long Island Medical College, and also occupied the chair of gynecology.

Dr. Skene was a surgeon in the Civil War, the author of a standard work on gynecology and of many valuable scientific papers upon his specialties, which were published in the medical journals.

At the time of his death he was planning to open in the fall a free hospital for women.

Dr. Frederick Humphreys, of 22 West Thirty-ninth street, died July 7, of pneumonia at his summer residence at Monmouth Beach, in the eighty-fifth year of his age.

Dr. Humphreys was educated for the ministry, in which profession he remained only a short time, when, after passing through the usual medical course, he joined his father in 1844, who was located in Utica, in the practice of medicine.

Dr. Humphreys was one of the early converts to homeopathy. In 1853 he was called to the chair of the Homeopathic Institute and Practice of Medicine in the Hahnemann College of Philadelphia, which position he filled until 1856. Dr. Humphreys was widely known throughout the United States, especially in connection with a list of remedial agents put up under his direction for family use, under the name of Humphrey's Specifics, which gained great popularity, and from which he realized a large fortune. These remedies were prepared with the most conscientious care and were in no sense secret, the combinations being at the service of any one who chose to apply for them.

Dr. Humphreys was a loyal friend, a good citizen, a liberal contributor to charitable objects, a zealous churchman, for many years senior warden of the Church of the Heavenly Rest, one of the most influential churches in the city.

His son, Rev. Dr. Frank Humphreys, was formerly connected with the Garden City Cathedral, and at the present time has charge of the service in St. John's Cathedral, University Heights, in this city.

Dr. Fessenden Nott Otis, formerly professor in the College of Physicians and Surgeons, and an author of marked ability, died in New Orleans while on a visit to that city, in the seventy-sixth year of his age.

BIBLIOGRAPHICAL.

A TEXT-BOOK OF THE MEDICAL TREATMENT OF DISEASES AND SYMPTOMS. By Nestor Tirard, M.D., London, F.R.C.P., Professor of the Principles and Practice of Medicine, King's College, London; Physician to King's College Hospital; Examiner in Materia Medica to the Conjoint Board in England. Adapted to the United States Pharmacopœia by E. Quin Thornton, M.D., Demonstrator of Therapeutics, Pharmacy and Materia Medica, Jefferson Medical College, Philadelphia. Lea Brothers & Co. 1900. Pp. 632, 8vo.

This book attempts to supply a long recognized defect in medical teaching—viz., the links between physi-

ology and pathology, between pharmacology and therapeutics and their relationship to treatment.

The sequence of the chapters rests chiefly on an anatomical and physiological basis, with here and there a section dealing with symptoms considered of importance. Mention is made under the respective diseases only of those symptoms indicative of treatment, remedial or prophylactic.

A complete account of the pathology, diagnosis and prognosis is beyond the scope of the author's intention.

There is no doubt this special work on Treatment will be found of service to a wide circle.

A MANUAL OF OBSTETRICS. By A. F. A. King, M.D., Professor of Obstetrics and Diseases of Women in the Medical Department of the Columbian University, Washington, D. C., and in the University of Vermont, etc. In one 12mo volume of 612 pages, with 264 illustrations. Cloth, \$2.50 net. Lea Brothers & Co., Publishers, Philadelphia and New York.

A new edition of this long-time favorite manual will be welcomed by practitioners, instructors and students. No more helpful small work has ever been issued on any branch of medicine, and the fact of its hearty appreciation by the several classes for whom it is intended is well attested by the demand which has brought it to its eighth large edition.

Thorough revision to date has always characterized it, and the present issue is no exception. Forty-one new engravings have been added to the already rich series of illustrations. If the clearest, most trustworthy, comprehensive, up-to-date and most richly illustrated Manual of Obstetrics is desired, Professor King's work is the book indicated.

THE TREATMENT OF FRACTURES. By Charles Locke Scudder, M.D., Surgeon to the Massachusetts General Hospital, Out-Patient Department; Assistant in Clinical and Operative Surgery in the Harvard Medical School. Assisted by Frederic J. Cotton, M.D. With 585 illustrations. Philadelphia: W. B. Saunders. 1900. Pp. 433, 8vo. Price \$4.50 net.

This book, intended to serve as a guide to the practitioner and student in the treatment of fractures of bone, is certainly ideal in its purpose. The details and illustrations are most practical and simple, unusual fractures being omitted. An exact knowledge of anatomy, combined with accurate observation, is advocated as the proper foundation for diagnosis and treatment.

The expressions "closed" and "open" fracture take the place of the usual "simple" and "compound," on account of the relationship to bacterial infection.

Types of dressings for special cases are discussed, but theoretical treatment and many clinical cases are omitted.

The tracings of the Röntgen rays are used to illustrate the sites of lesions, and they have been interpreted by competent observers, familiar with the clinical aspects of the particular case, thus making the work reliable, practical and instructive. This book can be recommended as up to date, accurate and suggestive of simpler methods of treatment, and most worthy the attention of the general practitioner.

NORMAL HISTOLOGY By Edward K. Dunham, M.D., Professor of General Pathology, Bacteriology and Hygiene in the University and Bellevue Hospital Medical College, New York. New (second) edition. In one very handsome octavo volume of 319 pages, with 244 illustrations. Cloth, \$2.50 net. Lea Brothers & Co., Publishers, Philadelphia and New York.

Responding to the request of the large proportion of teachers whose curricula make normal and pathological histology separate courses, Professor Dunham has separated his well-known work into two volumes. In that on Normal Histology, which is fresh from the press, he has added such material as has been developed in the brief period since the original publication of his book, and he has likewise appended his concise and complete chapter on Technique, so that the book answers every demand of student or physician as a text or laboratory manual. The companion volume on Pathological Histology is actively preparing. For the advantage of the students whose professors cover both Normal and Pathological Histology in their courses, the original book presenting the whole cognate subject in a single pair of covers will continue to be published. For clearness of text and beauty of illustration no work surpasses that of Professor Dunham.

ATLAS AND EPITOME OF SPECIAL PATHOLOGIC HISTOLOGY. By Docent Dr. Hermann Dürck, Assistant in the Pathologic Institute; Prosector to the Municipal Hospital, L. J. in Munich. Authorized translation from the German. Edited by Ludvig Hektoen, M.D., Professor of Pathology in Rush Medical College, Chicago. Circulatory Organs; Respiratory Organs, Gastro-intestinal tract. With 62 colored plates. W. B. Saunders, Philadelphia, 1900. 12 mo. Pp. 158. Price \$3 net.

This is another of Mr. Saunders' wonderful publications known as Medical Hand-Atlases, of which two volumes are to follow to complete this subject. As we have said before, the illustrations of this series are beautiful works of art as well as being true to nature, and the volumes are afforded at a mere nominal sum. No student of this subject can afford to be without these volumes.

A MANUAL OF OBSTETRICAL TECHNIQUE AS APPLIED TO PRIVATE PRACTICE WITH A CHAPTER ON ABORTION, PREMATURE LABOR, AND CURETTAGE. By Joseph Brown Cooke, M.D., New York, late Attending Physician St. Mary's Free Hospital for Children, Out-Door Department; late Attending Physician Northwestern Dispensary, Department of Diseases of Children, etc. Philadelphia and London: J. B. Lippincott Company, 1900. Pp. 109. 12 mo.

This little volume is claimed by the author to have been written from the view-point of the private practitioner, for the purpose of aiding the younger brother in his inexperience, the "hospital idea" having been studiously avoided. It is designed to cover the plain, everyday work of a practising physician and as such will be found of great service to those for whom it is intended. The methods described are eminently practical, simple and reliable. The scheme is novel and original, and the book should certainly find a place.

CORRESPONDENCE.

TREATMENT OF STOMACH DILATATION, ETC.

EDITORS MEDICAL TIMES:

In your June issue appears a clearly and concisely written article by Dr. B. Farquhar Curtis on "The Surgical Treatment of Simple Dilatation of the Stomach and of Gastrop-tosis." Although in accord with advanced surgical views, it well illustrates the need of consideration of such cases by a gastro-enterologist, and is a further justification of an article by me, published in the June number of the *International Medical Magazine*, entitled "Co-operation of Physician and Surgeon in Abdominal Practice."

From quite a considerable experience with atonic—that is, non-obstructive—dilatation of the stomach, I am disposed to consider the indication for surgical intervention as very rare. At any rate, I have never known a case to prove refractory to thorough and careful medical treatment. However, I am willing to admit that medical treatment without lavage and spraying of the stomach may fail, and that lavage improperly performed will not only be useless, but that it will aggravate the condition.

Meinert's statement that 80 per cent. of all women have gastrop-tosis must be placed in the same category as all similar generalizations, such as that all men are liars, that 90 per cent. of our society women are cocaine fiends, that a case of scolecitis (appendicitis) always occurs if not operated on, etc. It is perfectly possible that 80 per cent. of stubby, overworked and over-prolific German peasant women may have stom-achis which extend to or below the umbilical level, and it certainly is a fact that from child bearing, improper dress, etc., gastrop-tosis is much more common among miscellaneous series of women than of men. My case reports with charts of the position of the abdominal viscera show, however, less than 10 per cent. of my female patients to have gastrop-tosis. Considering that practically all of these are cases of some digestive disease or other, it is apparent that in general practice—and *a fortiori*, in series of women in good general health—a much smaller percentage of cases of gastrop-tosis would be found. Allowing for the fact that in persons with squat and broad figures the stomach area is naturally lower than in those with average figures, it has not been my experience that persons with genuine gastrop-tosis were free from subjective symptoms. The statement that descent of the kidneys, liver and intestines is commonly associated with gastrop-tosis is, I know, orthodox, but, for some reason or other, I have only once encountered what could really be considered general splanchnoptosis, and even in that case the liver was only very slightly depressed and the uterus, in spite of several pregnancies, was normal. Even movable right kidney is more frequent without than with gastrop-tosis, and, in general, I have never been able to make out that prolapse of one abdominal viscus markedly predisposes to prolapse of others, though, *a priori*, one would certainly expect this to be the case. I have also had unexpectedly good results from the treatment of gastrop-tosis by endogastric spraying, strychnine and moderate regulation of diet. This point brings up the rather difficult one of the differential diagnosis between dilatation—sagging of the greater curvature—and gastrop-tosis—sagging of the whole stomach, or rather, as Dr. Curtis points out, of all but the cardiac attach-

ment. Practically, I usually determine this differential diagnosis by auscultatory percussion, but in cases of marked diagnostic difficulty, an X-ray examination, with bismuth to darken the gastric contour, as published by me in 1897-8, and various other manœuvres must be used.

It would be out of place to attempt a discussion of the various surgical procedures mentioned by Dr. Curtis. I wish merely to emphasize the fact that the surgeon should no more think of operating on these cases without first submitting them to expert gastro-enterologic examination than the internist would think of operating himself without securing the aid of skilled surgical hands and brain. Nor do I wish to be understood as insisting on gastro-enterology as a limitation of practice. Personally, I have not the ability nor the strength to do justice to digestive practice while attending to all kinds of internal diseases, and a number of men throughout the country are similarly circumstanced; but none of us would claim that because a man is conducting a general, internal practice he is unable to render an expert opinion on a problem in gastro-enterology.

A. L. BENEDICT, M.D.

Buffalo, N. Y., July 13, 1900.

To the Editors of THE MEDICAL TIMES:

Throughout the length and breadth of the land is growing stronger and stronger the protest against the long hours of home-study and the overworked condition of the children in our schools. Yet the best and most thoughtful teachers are forced to confess that pupils are no more advanced or better prepared either for business or for the higher schools than when far less was required. Are not the frivolous, worthless books so freely scattered positively stultifying? The children of an earlier generation who reveled in Dickens' "Child Stories," Bonner's "Mythological Legends," Dr. Abbott's fascinating creations, and Lamb's "Tales from Shakespeare," had a glorious field quite unknown in this age of State Readers and "Chatterbox."

The child who learned day by day verses from the Bible and short selections from the standard poets had a reserve fund of strength and delight to last through life quite unknown to the unfortunates of to-day, whose literary field is founded by

"I have a little doll,
I take care of her clothes,
She has pretty blue eyes
And her name is Rose,"

and the mass of corresponding value with which our juvenile text books are filled. In one school where the principal, wearied and disgusted with the stupid and valueless music supposed to be the correct food for children, said in a fit of desperation: "We will have no more of this twaddle; if the classes cannot learn something that has some musical value or which will serve some purpose in developing æsthetic or moral feeling, the time had better be spent in the yard singing 'Ring Round Rosa,' dancing around the flag pole, where at least they will have some pleasure, fresh air and exercise." From the exquisite German Folk Lieder, the old English and Scotch ballads, and from favorite operas, little gems were selected and practiced, with the result that not only was the singing a delight to teachers and pupils, but the drill of scales and transposition was far better than ever before.

The revolt against vertical writing seems another

step in the direction against making the preliminary work of the child something quite separate and distinct from its practical application. The system was claimed to be the result of "Child-Study" along physiological lines and to embody correct methods of using the arms, lungs and eyes. In the schools of San Francisco, where it has been thoroughly tried, the results have been most gratifying in the lower primary grades, so successful, in fact, that after the second or third year of school the pupils have been found sufficiently proficient to have penmanship cease to be taught, but relegated to its proper place, as an expression for the ideas of the child and an aid to other work. Naturally, the personal characteristics and individuality which are claimed to be wanting soon show themselves. Is not this another proof that too much attention is given to the means and the end lost sight of?

We have much to learn in drawing from the Japanese. Mr. Boutwell once said, "The way to resume is to resume," and they say, practically, the way to draw is to draw, and in some schools on the Pacific coast, where, following their plan, the six-year-old children have been started at once in drawing from Nature in connection with Nature studies, the results have been most gratifying.

The attentive observer of children soon sees that the power to create is one of their enjoyments, and as the beauty of fruit, flowers, etc., etc., opens to their conception, reproduction becomes a delight and what is done for love is sure to be well done. The kindergartens start their children in a practical application of their little efforts, and if the same ideas could be carried through the more advanced schools much might be saved.

It was a wise teacher who said, "By their fruits ye shall know them," and have not the long years spent in writing, drawing, singing, etc., etc., as an end instead of an expression of the child itself been a bitter illustration of a stone instead of bread.

"Heaven lies about us in our infancy," and those who have watched the development of children and seen with what clearness they recognize the best in art, literature and music, and how ready they are to work for what seems to them an advantage will agree that a vast amount of the present work could well be eliminated.

Respectfully,

AMELIA G. CATLIN.

San Francisco, Cal., July 14.

Editors MEDICAL TIMES:

Yesterday afternoon your most interesting July number of the MEDICAL TIMES reached me. Many thanks.

I have read with interest the article by Dr. M. O. Terry on the resolving effects of the medicated galvanic current on various growths. The facts therein contained are not new to me. As far back as 1865 I used in my private hospital in Lima (Peru) galvanic currents, not only to introduce medicaments in the human system, directly on the parts diseased, but also to extract from them extraneous matters which caused the disease—metals, mercury particularly. In that I have been most successful. I have had many cases of patients that had worked in the silver mines of Cerro Pasco, where they tread with naked feet the silver ores crushed to a powder, and the mercury to make the amalgam. Yours very respectfully,

AUGUSTUS LE PLONGEON, M. D.

18 Sidney place, Brooklyn, July 12, 1900.

HOSPITAL REPORTS.

MEDICAL CLINIC ON DISEASES OF CHILDREN.*

BY AUGUSTUS CAILLE, M.D., OF NEW YORK.

Professor of Diseases of Children, Visiting Physician
Post-Graduate and German Hospitals, Con-
sulting Physician Isabella Home
and Hospital, Etc.

Case 1. Central Pneumonia.—I wish first to draw attention to this baby, which has been in the wards three or four days and no diagnosis has been made. We learn that the temperature ranges from 103° to 104°. The respirations are between 30 and 40, and there is a slight cough, but no physical signs of pneumonia. Now, experience shows us that where we have such a temperature, with respirations between 30 and 40, together with an occasional hacking cough, we may look for a deep pneumonia, which sometimes cannot be readily localized. A central pneumonia, or one that develops from the center of the lung, takes frequently four or five days before we can recognize it by physical signs, and we often find ourselves going to the patient's chest a number of times without being able to make a positive diagnosis, which is very annoying. When you are face to face with such cases you can simply tell the parents that you suspect a pneumonia, and treat the case accordingly.

Case 2. Prolapse of the Rectum with a Vulvo-Vaginal Discharge.—This girl was shown you last week. She has a prolapse of the rectum and a vulvo-vaginal discharge, gonorrhoeal in origin. In speaking of the treatment we stated that it would be necessary to swab the vagina with a solution of nitrate of silver, 5 or 10 grains to the ounce, in order to overcome the purulent vulvo-vaginitis. We hoped that, by taking away the irritation, to see the prolapse disappear. To-day, although the discharge is much less, the prolapse is still here, and so we now will swab the vagina again. Please notice that there is not so much redness to-day. Last week the discharge was quite profuse; to-day there is not so much. I will now proceed to cauterize with nitrate of silver solution, and I shall do it thoroughly. The mother should be instructed to wash the parts with a solution of sulphocarbonate of zinc, 1 drachm to 4 or 6 ounces. Stone in the bladder is sometimes a cause of prolapse of the rectum. I will introduce my finger into the rectum and endeavor to learn if such a condition exists; a stone in a child's bladder can usually be felt per rectum. We do not find anything of the kind. The mother will use the solution mentioned, and should also be instructed to inject into the rectum a solution of alum water 3i to the pint, 8 ounces to be injected twice a day. If we are not successful in the management of the case in this way, we then can use the actual cautery, and make a linear scarification of the prolapsed gut.

Case 3. Mitral Insufficiency.—This child is eight years of age, and is brought to us because she suffers from dyspepsia. Her dyspepsia has lasted, not days or weeks, but years. If it were due to simply overloading the stomach it would last but a few days, or a few weeks at the most. The mother states that the child's heart beats rapidly. She has frequent palpitation of the heart, she cannot sleep well, and she gets out of breath in going upstairs. If you place your ear to her chest you will hear a loud systolic murmur,

*Held at the Post-Graduate Hospital.

which will explain the dyspeptic symptoms at once. She gives a history of having had rheumatism three years ago. If this child has had a valvular lesion during the past three years, she ought to have an enlarged or hypertrophied heart. To show you that such an enlargement exists, I will mark out with a pencil its boundaries. She has a systolic murmur, palpitation, want of sleep, difficult breathing on exertion, enlargement of the heart, all of which enable us to make a proper diagnosis and to account for her dyspeptic symptoms. Some time in the near future I will devote about twenty minutes to a discussion of the management of such cases.

Case 4. Apex Pneumonia.—We have here another interesting case. This baby is ten months of age, and has been ill for the past two months. The mother states the child is failing. She has fever. She has a cough. She is losing weight. The mother also gives us the information that in August the child had measles, and ever since has been ill. In cases of this nature one should examine carefully the chest, the abdomen and the urine. Measles is sometimes accompanied by a broncho-pneumonia, or complete solidification of the lung without timely resolution. In our case dullness is found over the right apex, and such cases are very common. An apex pneumonia is frequently overlooked, and children are treated a long time for malaria, or for a bronchitis, or what not. Apex pneumonia is readily detected if looked for carefully. Now, what shall we do in cases of this kind? We know that such children are apt to become tuberculous. A solidified patch of lung is a good breeding ground for the tubercle bacilli, and so a large number of children become tuberculous. Therefore, every effort should be made to overcome this tendency and get the lungs to clear up. So far as my personal experience goes I know of nothing better in the way of drugs than iodide of potassium, as contained in the following:

R	Potassii Iodidi	ʒi
	Tinct. Opii Camph.	ʒss
	Syrupi	ʒss
	Aque	ʒiij

M. Sig. Teaspoonful thrice daily.

Fresh air and proper food are, of course, necessary. The mother should be instructed to take the child out in the fresh air as much as possible. Do not keep the child in doors wrapped in heavy clothes, with, maybe, a layer or two of cotton about her.

Case 5. Rachitis.—This baby has a skin eruption, and there is a question as to its significance. It is a papular eruption only noticeable at the buttocks, which is disappearing. It is a common occurrence whenever the skin is irritated by wet and unclean diapers, and can readily be distinguished from syphilis. There are other things about this child, however, which are more interesting. Please notice that when I press with my finger upon the occipital bone it cracks like parchment; you can indent it. This is what is termed *craniotabes*, and is one of the principal symptoms of malnutrition. This baby, I am told, gets the breast milk and nothing else. If that baby were properly fed it would not have this condition. I can positively say that its food is not sufficient, and to prove it to you, I have here on this slide a few drops of the mother's milk, and you can see what a watery article it is. This woman's milk is not up to the standard. I should advise the mother to attempt to improve her milk by eating eggs, meat and other nutritious foods,

and by going into the open air. In addition to the breast milk, I should advise her to give the child some other form of milk, particularly modified cow's milk with 4 per cent. of fat, and in a reasonable time you will find your patient markedly improved.

Case 6. Neurotic Heart.—This young lad has a rapid heart. I do not hear any murmur, but the heart is not only rapid, but irregular. This is an instance of a neurotic heart. It beats 140 to 150 times. His mother states that he is a nervous, irritable, cranky boy, and, in conformity with his peculiar disposition, we find the heart rapid and irregular.

Case 7. Goitre.—Here is a young lady, twelve years of age, who has an enlargement in the neck which you will recognize as a goitre, both lobes of the thyroid gland being enlarged. I want to say a few words regarding the giving of thyroid extract in these cases. In the past few years I have known of colleagues who, as soon as they recognize a case of goitre, immediately give the thyroid extract or the thyroid powder. A goitre is an enlargement, often cystic, of the thyroid gland. Because the thyroid gland is moderately enlarged, it does not necessarily follow that its function is lost and, therefore, thyroid extract or powder must be immediately administered; that is all wrong. One is not justified in assuming that its function is gone. In the condition known as myxœdema, then your thyroid treatment would be proper, and you would be giving to nature what she has lost. Please never assume that, because the gland is hypertrophied, it is not doing its work. In my experience the only thing that will reduce the size of this gland is iodide of potassium. This drug is given in a watery solution, 1 drachm to half an ounce; 10 or 20 drops are given twice daily in milk. A goitre of this kind may disappear when iodide of potassium is administered. There is no question of operative interference at present. This goitre is not large enough to press upon the trachea or nerves or interfere with respiration or the comfort of the child in any way.

Case 8. Adenoids.—If you place your finger behind the soft palate in this child you will feel a mass which is readily recognized as adenoid tissue. An assistant sits in the chair, holding the patient, encircling his arms with his own; another assistant introduces a mouth gag and steadies the head. With a sharp curette the growth is quickly planed off and removed. These children complain of taking cold easily, breathing through the mouth, having so-called "night terrors." They usually have a stupid expression. When called to see such a case, one should remove a portion of the warty growth with a post-nasal forceps, and tell the parents that the posterior portion of the nose is filled with such a growth. They should be curetted, with or without the use of ether or chloroform. You can rest assured that in removing such growths you have done a good deed. Many of these little patients go from one dispensary to another, being dosed with cough mixtures, etc., when they would soon have been cured if the adenoids had been removed.

Case 9. Hypertrophy of the Tonsil.—Here is another case of respiratory impediment in a boy of twelve in the shape of large hypertrophied tonsils. There is but one method of treating these cases effectually, and that is by removal, best performed by the tonsillotome. The head of the patient should be held by an assistant, who also controls the mouth gag. As much of the gland should be removed as can be pressed into the tonsillotome.

I will now devote the remaining time to a discussion of the points in the dietetic management of dyspepsia and summer diarrhoea. Diarrhoeas in children are not the result of catching cold or sitting on cold stones, but are due, as a rule, to overfeeding or to bad food. Now, let us suppose that there comes to you a child, nursed at the breast, and that the breast milk is good, and the child is fed every half an hour. This child gets too much milk, which gives rise to a dyspeptic diarrhoea from overfeeding. This child should be taken away from the breast for one-half a day or longer, and then put back to the breast at longer but regular intervals. In the majority of instances dyspeptic diarrhoeas are due to improper food, either improper breast milk or improper bottle food. A woman who is cachectic from cancer, syphilis, tuberculosis or Bright's disease cannot give her child proper breast milk; neither can she give proper food if she is epileptic, or suffers from typhoid fever. Dyspeptic diarrhoeas, occurring in such instances, should be cared for by taking the infant away from the breast and substituting good breast milk or good bottle food. In the cities the majority of cases of dyspepsia and diarrhoea are due to *bad bottle food*, such as spoiled milk, condensed milk, etc. Here we should take the child from the bottle and substitute farinaceous waters, toast water, egg water, rice water, etc.; this can be done for one or two days or a week, and as the child's condition gets better you can stop these foods gradually and go back to the proper nutriment. I believe it to be a good plan to have a list of farinaceous waters and drinks printed on the backs of your professional cards, and then to hand them out when needed. This will save one a great deal of annoyance from repeating directions.

Now, having, by means of such simple dietetic methods, without medicine or any other interference, seen the child improve, the question comes up, What shall we do to prevent the child from having a relapse? Can I give cow's milk, which is the best substitute for the mother's milk? It must be given in such a way that it can be digested by the little patient. Now, let us see what is the difference between mother's milk and cow's milk. In good mother's milk there are about 4 per cent. fat, 7 per cent. sugar and 1½ per cent. proteids. Cow's milk is about the same as regards fat, 6 per cent. of sugar and 3 per cent. of proteids. Therefore, if you wish to *modify* it or *dilute* it so that the proteid material will be 1½ per cent. instead of 3 per cent., you will so dilute the milk that the percentage of fat falls below 2 per cent. The great difficulty is keeping the fat up to 4 per cent. and at the same time reducing the albuminoids. Here in New York, in Philadelphia and other big cities, we have milk laboratories, and people who have big pocketbooks can obtain from the physician a prescription calling for the right proportions; so here the laboratories do the business for you. The majority of people, however, wish to modify cow's milk at their homes. If you dilute the milk you must add something to get it to the proper standard—add cream, or dilute the so-called top milk. Let the mother buy the best milk and let it stand; she then should dilute it—this top milk, which has about 8 to 10 per cent. of fat—one-half, which will give the proper amount of curd with a sufficient amount of fat. In this way you have milk all right as regards composition, but it is liable to become sour unless properly preserved. There is another point in difference between breast and bottle

milk. The breast milk is sterile and the bottle milk is not. Milk, even though it be boiled, will rapidly turn sour during summer months because the turning point, or souring point, is 60° F. Soxhlet, a German chemist, recognized this point, and stated that after mixing it you should preserve it as a housewife preserves her peaches—by keeping it in air-tight bottles. His plan was as follows: He took bottles which were big enough to hold *one feeding*; these bottles had perforated rubber stoppers. He filled the bottles with milk and water, or milk and gruel; these were placed in a tray and in steamed water at a temperature of 212° F. An Arnold's steamer is good for this purpose. After steaming for three-quarters of an hour the bottles were hermetically closed by inserting a glass plug through the perforations, and the milk food thus prepared kept indefinitely. I met Soxhlet in Munich about the time he first reported his sterilizing process, and I subsequently introduced this process to the medical profession in our country, since which time it has become common property. Instead of the original combination Soxhlet stopper, we substituted cotton for closing the bottle. I have here in this bottle milk that is ten years old, and you will notice that it is as sweet to-day as it was at first; it is fluid and perfectly good. This milk was sterilized according to the Soxhlet process. Now, here is another bottle of milk which is stoppered with cotton and sterilized in 1890, and you will notice that the milk is absolutely good. The milk is brown in color, but that is due to the cotton, which was roasted. You will notice, also, that the bottle is one-half full, because the water continually evaporates through the cotton; the water can get out, but the microbes cannot get in. The importance of this is soon recognized, and I do not believe that there is any accredited physician present who would not employ sterilizing or Pasteurizing process for the preservation of milk in the household. There are many new devices. Here is a rubber nipple which has a slit; this rubber nipple is placed over the mouth of the bottle. The steaming process expels the air through the slit, and as the bottle cools off a vacuum is produced, and the nipple closes down by suction and hermetically seals the bottle. Here is another device I picked up in Germany; it, too, has a little slit and works on the same plan.

Now, what is all this good for? If we have a mixture of food properly prepared, and we sterilize it, that food will keep until wanted for use. Soxhlet's suggestion was to sterilize at 212° F. When milk is steamed at 176° F. it is Pasteurized. There is but little difference between sterilizing and Pasteurizing. Both temperatures will destroy germs of fermentation, but the lower temperature will not destroy tubercle bacilli; so I think it is best to use the higher temperature. The Arnold's sterilizer is particularly adapted for sterilizing, for the reason that when the tray filled with the bottles is introduced and the jacket is not placed on, a temperature of 176° can be obtained; if the jacket is placed on, a temperature of 212° is obtained. So that with the Arnold's sterilizer we can both sterilize and Pasteurize.

Another point I wish to bring to your notice is that the milk sold in the groceries, brought from the country districts, traveling for six or eight hours in hot cars in the summer, will, in all probability, be already spoiled before the consumer gets it. If you go to work to modify and steam such milk, you will get bad results, because the milk is already spoiled.

Therefore, if you make use of this process, impress upon your people the importance of sterilizing good milk and not spoiled milk.

As to the use of cotton stoppers used in the preservation of the milk, it is sufficient for all practical purposes when milk is to be sterilized day by day. But if the child has to travel for a week or two, Soxhlet's stopper is the best. One hundred or more bottles placed in the satchel, if they are prepared in this manner, can be carried along anywhere. But if the sterilizing is to be done day by day, the ordinary cotton is all that is necessary. If the milk mixture is good, you may be sure that no harm will result by sterilizing the milk.

The question of rickets or scurvy, as the result of sterilizing process has been brought up, but there is no truth in it. It is not necessary to feed a child exclusively on sterilized milk. The sterilizing process should not be made responsible for faulty methods of feeding. Thousands and thousands of lives are saved by the sterilizing process; every year sterilizing prevents poisoning of delicate infants.

As a guide for you in the treatment of dyspepsia and summer diarrhoea in children, I take pleasure in handing you a few printed directions:

DIARRHOEA OF CHILDREN IN CONSEQUENCE OF OVER- FEEDING OR OF BAD FOOD.

I. OVER-FEEDING.

Dyspepsia and diarrhoea from over-feeding at breast or with bottle. Treatment: Stop feeding and give farinaceous water; irrigation of the stomach or bowel; regulate interval and duration of feeding.

II. IMPROPER FOOD.

A. Bad breast milk, cancer, syphilis, tuberculosis, cachexia.

B. Bad bottle food. (Milk poisoning.)

ad. a. We select good breast or a proper bottle food.

ad. b. We stop giving the improper bottle food and give as follows:

Barley gruel, cold tea, mutton broth, oatmeal gruel, whiskey water, cornstarch pap, egg white in water, lime water burnt flour soup, gum arabic in water, bread water.

We give no milk for the time being, and after recovery we select for the patient a proper food (breast or bottle).

Patent Foods.—Why should physicians not encourage their use? Among other reasons, most of them contain little fat and too much unchanged starch.

Cow's Milk.—Can we handle it to fit it for infants' use? It is slightly acid and contains about three times as much casein as mother's milk. It is not sterile as human milk, and its turning point is about 60° F.

How do we modify milk in the household? By diluting top milk.

Why is it not safe to give raw cow's milk to infants in warm weather?

How to Feed by Bottle.

Cow's milk, water or thin gruel, lime water, sugar, salt, in proper proportions. From 3 to 5 to 8 oz. every two or three hours; 7 to 8 bottles in twenty-four hours. One bottle of food at night and to quench thirst: Fenel tea or sterilized (boiled) water.

With rich milk no cream is necessary.

This food should be sterilized 212° F., or Pasteurized 176° cent.

Soxhlet's Process.—Small bottles, a tray, cotton stop-

pers, Arnold's Steam Cooker. In exceptional cases, when the digestive apparatus is defective, we make use of pre-digested food for a time.

When traveling with children, a good supply of sterilized milk food should be taken along.

RETROSPECTIVE OTOTOLOGY.

BY T. M. STRONG, M.D., BOSTON, MASS.

Indications for Opening the Mastoid in Chronic Suppuration of the Middle Ear.—At the recent International Otolological Congress, held in London (reprint *Jour. Lar., Rhin. and Otol.*), a series of papers were presented upon this very important and interesting subject, by Profs. Politzer, Macewen, Luc and Knapp, and discussed by a number of the leading aurists from this country and the Continent. Briefly abstracting from the report as a whole we find the indications given in two groups, objective: 1. Caries of the walls of the tympanum. 2. Granulations and polypi in the neighborhood of the aditus, and recurring after removal. 3. Fistulae opening into the mastoid cavities, and frequently leading to cholesteatoma. 4. Cholesteatoma. 5. Hyperostotic stricture of meatus. 6. Facial paralysis or paresis. 7. Painful swelling on the mastoid (indicating acute mastoiditis, fistula, cholesteatoma or sequestrum). 8. Obstinate long-continued fetid discharge, rebellious under all forms of treatment, especially when the perforation is in the postero-superior quadrant, and the remains of the membrane are adherent to the inner wall, and still more if pus, or especially crumbling masses of epithelium, can be sucked out by means of Siegle's speculum. 9. Symptoms of tuberculosis occurring in the course of chronic suppuration of the middle ear (the supervention of aural suppuration in the course of pulmonary tuberculosis is unfavorable for operation). Further, high temperature preceded by rigor or oscillation of temperature, indicating sinus phlebitis or direct septic absorption. Also vomiting, with headache and other brain symptoms, or changes in the fundus of the eye.

The second group were subjective: 1. Persistent or recurrent pain in the ear or mastoid process, especially with persistent and fixed pain in the parietal or occipital region, and increased by percussion, which frequently points to temporal or cerebellar abscess. 2. Vertigo, either permanent or intermittent attacks, which may be due to erosion of the external semi-circular canals, or extension of the disease to the interior of the labyrinth (as would be indicated by the usual tuning fork tests for nerve deafness, and would call for a removal of the labyrinth, as advised by Jansen, over and above the original mastoid operation). 3. Well-marked brain symptoms, such as heaviness, pressure, headache, torpor, loss of consciousness, etc.

A practical working rule was as follows: When a pyogenic lesion exists in the middle ear, or in its adnexa, which is either not accessible or which cannot be effectually eradicated through the external ear, the mastoid cells and antrum ought to be opened.

Another principle strongly expressed was, that the mastoid antrum, the actual prolongation of the attic, near the base of the petrous bone, participates in the great majority of cases in the suppurative lesions of the latter, and ought therefore to be opened and curetted at the same time, when sufficiently long attempts at local treatment of the otorrhoea through the auditory meatus have failed.

The operation and its results were not a part of the report.

First Case of Bezold's Mastoiditis Observed in the New-born Infant.—Hitherto (*Jour. L., R. and Otol.*), Bezold's phenomena have not been observed at an age inferior to ten years, and, indeed, the mastoid apophysis and its cells are described as incomplete information before the third year. Some specimens of infantile temporal bones do, however, exhibit well-developed mastoid cells, and the case in point is one of such instances of early development.

The patient, an infant of two and a half months, with a history of three weeks' purulent otitis, came to the hospital with a purulent collection beneath the sterno-mastoid, pressure on which caused a flow of pus from the meatus. On operation, the suppurating antrum was found to communicate freely with a cavity in the mastoid, which opened into the digastric fossa by a perforation in the inner wall of the apophysis.

In answer to questions, the speaker stated that it was a true pneumatic mastoid, and that the sinus was not involved. The fistula was evidently secondary to the purulent mastoiditis.

The Politzer and Gruber Clinics.—Dr. Morton (Abstract *Laryngoscope*) gives the following points in diagnosis as applied to these clinics. In the diagnosis of catarrhal adhesive processes in the middle ear, Bing's ingenious test is used to determine the mobility of the stapes. Through the medium of a Eustachian catheter, an ear trumpet is connected direct with the tympanic cavity; the sound waves are thus conducted immediately through the base of the stapes, and membrana tympani secundaria to the labyrinthine fluids. Another trumpet is connected with the external meatus. If speech cannot be heard through the latter source, but can be easily heard when spoken into the tube connected with the catheter, the stapes is then judged to be freely movable and the malleus and incus to be in some way stiffened.

Another point in the differentiation of ear disease is to place the sounding tuning fork upon the mastoid process; as soon as the note ceases the external meatus is closed with the finger, and if the sound is not heard again middle ear disease is diagnosed.

In auditory nerve disease, good perception for the high notes is considered of no value, for so many cases of pronounced nerve trouble are experienced in which excellent perception for the high notes is preserved. Rinné's test gives a positive result, the explanation being as follows: Normally the perception of the tuning fork through the air is longer than through the bone; in either case the nerve is finally called into action, and when it is diseased the air and bone conduction must suffer equally, which leaves them in the same relation to each other as in the normal condition, namely, positive Rinné. The important point, then, is not that we have a positive Rinné, for such is found in normal conditions, but that the Rinné is rendered positive by the shortening of the bone conduction.

Deafness as a Result of the Abuse of Phenacetine.

The physician (Abs. *Laryngoscope*) gave a prescription for powders containing 0.7 Cc. of phenacetine, one powder to be taken twice daily. By mistake the powders were given every two hours, so that in the course of twenty-four hours the patient took 7.0 Cc. of the drug. Aside from other toxic symptoms the patient was entirely deaf, which continued after the subsidence of the general symptoms, and has proved to be permanent. Meningitis could be excluded, and the only explanation is that the function of the ear was entirely destroyed by the drug.

Significance of Earache in Children.—T. H. Halstead (*Med. News*). The author refers to the neglect of the ear in children by physicians, even in very recent years. Earache is of two kinds, one neuralgic or otalgia, so-called, and the other inflammatory, characterized by pains of a throbbing, beating, steady character. The idea that earache in children is usually of the neuralgic form, he combats positively, and asserts that it is usually an acute inflammatory attack in the middle ear, and only exceptionally neuralgic. He refers to cases in which this mistake had necessitated serious operations after long suffering on the part of the patient for weeks or months, and in a few instances was the cause of death. The earache varies with the intensity of the inflammation and the age and temperament of the child. In the one case a slight inflammation will throw the child into paroxysms of screaming and almost convulsions, while in another case a large amount of pressure with bulging of the drumhead may occasion only a sense of fullness and discomfort without much pain. The Eustachian tube of the young child being shorter than an older child or an adult allows an easy passage for the discharge from the ear into the pharynx, so that there may be very little earache, or redness or bulging of the drum membrane, the latter being merely opaque or lusterless. Another difficulty in these cases is the fact that the child does not locate its pain definitely unless watched with great judgment on the part of the nurse or parent.

A cold in the head of a young child is more apt to be an inflammation of the pharyngeal tonsil than of the nasal mucous membrane. This swollen mass of adenoids, teeming with bacteria, explains at once why children have so many acute inflammations of the middle ear. The continuous canal made up of the Eustachian tube, the cavity of the middle ear and the mastoid offer an ideal center for retaining and propagating of bacteria; and the distribution of their toxine products. The tegmen tympani, always thin, is sometimes absent, so that an abscess of the middle ear might perforate into the cranial cavity with less difficulty than through the drum. It is a fact to be recognized then that the usual cause of meningitis in children is a suppurative inflammation of the middle ear, just as brain abscess in the adult is often the sequela of acute or chronic suppuration of the mastoid or middle ear. It is the experience of many physicians to have a tentative diagnosis of pneumonia, acute meningitis, or even typhoid fever, set aside by the amelioration following a discharge from the ears.

This whole subject was one of greatest importance to the general practitioner, because upon him falls the duty of recognizing the trouble in the beginning, since the services of the otologist comes much later as a rule.

Hartman in 1894, and again in a recent paper, calls attention to the connection between otitis media and gastro-intestinal affections in infancy, stating that loss of weight and elevation of temperature should always demand an examination of the ears, when it would be found that the tympanic cavity contained pus, and relief would follow its evacuation. He regarded the intestinal disturbance as a result of the resorption of the toxic poisons from the exudate in the tympanic cavity, rather than that the otitis media resulted from the infection entering the Eustachian tube during the act of vomiting.

In 1897 Ponfick published the details of 100 autopsies on children under four years of age, dying from various diseases, the vast majority of this number giving no

indications during life, or rather no suspicion to the attending physician, of middle ear inflammation, and yet 91 per cent. showed that the middle ear was so involved. The question naturally arises to how many was the cause of death due to this unsuspected, unlooked for and untreated suppuration of the middle ear? In 1896 and 1897 Barth examined 126 children under three years of age, suffering from various diseases, and found 92 per cent. to have otitis media to a greater or less degree. Pomeroy recently emphasized the importance of the general practitioner recognizing the frequency of otitis media in cases of gastro-enteritis and pleuropneumonia. The writer of the paper gives an interesting series of examinations upon 22 children in the hospital ward. Of this number 11 were under six months, the youngest being five days, and the remaining 11 between six months and three years, and the large percentage of the cases showed the presence of otitis media to a greater or less extent. His figures were given only to confirm other and larger reports.

Recurrent attacks of earache in children mean the presence of adenoids in the naso-pharynx. The adenoids may be the chief cause of the nasal disturbance, or very small and not interfering with breathing, but repeated attacks of earache, repeated gatherings in the ear, repeated attacks of deafness accompanying colds in the head, mean that there is in the pharynx, in the neighborhood of the Eustachian orifice, some hypertrophied lymphoid tissue, large or small in amount, which is exceedingly prone to acute or subacute inflammation tending to extend to the middle ear. One attack may be harmless, but repeated attacks must leave the ear in a damaged condition, or lay the foundation for that deafness which will surely follow in later life.

Pathological Changes Occurring in the Unobstructed Nostril in Cases of Deviated Septum.—E. L. Vansant (*Jour. Amer. Medical Assoc.*) One obstructed nostril means a greater amount of inspired air passing through the free one, thus causing increased functional activity of the mucous membrane and deeper structures, in order that the air may be properly warmed and moistened. This activity causes hyperæmia of the parts, particularly the middle and inferior turbinal tissues. The increased blood supply with the enlargement and proliferation of the overacting mucous glands and cells of the deeper tissues leads to a more permanent increase from the hyperplasia of the tissues, which may be regarded as a true compensatory hypertrophy. This change is first noticed in the tissues opposite the greatest concavity of the deflection. This tissue by reason of hyperæmia and excessive functional activity and exposure to mechanical irritation is peculiarly liable to inflammation, which, causing an increase of the interstitial connective tissue and great destruction of the glandular appendages, eventually leads to atrophy. This is usually first noticed in the lower turbinates. Then follows enlargement of the middle turbinated and increased activity, which in turn takes on inflammatory changes previously occurring in the inferior, and the anterior end being particularly liable to irritation, frequently becomes oedematous and polypoid. The mucous membrane lining the accessory sinuses becomes hyperæmic, irritated and inflamed from the first. Sooner or later the nasal chamber becomes septic. We then have marked atrophy of the lower turbinal, atrophy with associated polypoid degeneration of the middle turbinated, and a mucopurulent discharge from the accessory sinuses. We may have then three stages: 1. Hyperplasia of the tissues from over function and

compensatory hypertrophy. 2. Atrophy from inflammatory changes, and 3. Atrophy associated with sepsis of the nasal chamber and accessory sinuses. When the deviation is moderate with slight compensatory hypertrophy of the turbinates, a more open nostril may be the only pathological change noticeable.

Two Rare Varieties of Phlegmonous Angina in Children.—M. Katz (*N. Y. Med. Jour., from le Progres med.*) reports a case of an abscess in the tip of the uvula in a nursing, and of a lingual periamygdalitis in a child of eight years after an attack of measles. In the latter case, the abscess evoked a laryngeal oedema, which disappeared instantly after incision. The author calls attention to the extreme rarity of phlegmonous infiltrations in these locations in children.

Retropharyngeal Abscess of Auricular Origin.—Dr. Melzi (Milan) finding only twenty-two cases cited of this condition as a cause for this trouble (*Jour. Rhi. & Otol.*) quotes the following case: A child two years of age with suppuration from both ears, and large perforations of membranæ tympani. Careful treatment relieved the discharge on the left side within a few days, and the right in three weeks. A month later the discharge returned, accompanied with severe coryza, bronchitis, and otalgia. Prompt treatment brought marked improvement on the right side, but after some days the child became feverish, refused nourishment, complaining of pain in the throat, and troubled and interrupted sleep, with snoring. There was a slight degree of stiff neck, and the submaxillary region was swollen and redened. No change in the mastoid region, but there was marked congestion of the nasal and pharyngeal mucous membrane. During the night several attacks of suffocation. On examining the pharynx the following day an enormous retropharyngeal abscess was found, which, when opened, gave exit to a large quantity of pus. No ruggedness of the vertebræ could be detected, and a bacteriological examination of the pus from the ear and the abscess, showed the same bacteria to be present. After a few days all the symptoms disappeared and the discharge from the ear ceased. Three months later the child appeared to be in perfect health.

Lateral Pharyngeal Abscess Following Tonsillotomy.—Huber (*Abstract Jour. Eye, Ear & Throat Diseases*) reports the case of a rachitic child two years old, who had previously suffered from cervical adenitis, had both tonsils removed at one sitting, with the tonsillotome, followed in a few days by pyrexia and difficulty in swallowing, due to an abscess in right side of pharynx. This was incised with marked relief, but a few days later was followed by an abscess in the neck. After incision a drainage tube passed into the cervical incision could be brought into close contact with the wall of the pharynx.

X-Ray Work, Laryngological.—(*Jour. E. E. & T. Diseases*.) X-radiation has not accomplished as much in the department of laryngology as in other branches of medicine. It has, however, proved of great service to the laryngologist in the following lines, viz.: 1. In the detection and accurate localization of foreign bodies in the upper portion of the digestive and breathing tracts. It enables one to determine the advisability and character of operations for their removal. 2. In determining the ossification in the laryngeal and tracheal cartilages—a subject which has never been accurately determined before the advent of the X-rays. We can now know with scientific accuracy the time and the points at which all the cartilages ossify. 3. In the diagnosis of intrathoracic growths which cause some involvement of the res-

piratory tracts, either by compression of the trachea or some form of vocal cord paralysis. 4. The X-ray is likely to prove of distinct value in the early diagnosis of tubercular processes in the lungs. The observers must be trained to this line of observation in order that perfection may be obtained. The delicate variations in the shadows that form on the fluorescent screen can only be properly interpreted by practice. The therapeutic use of the rays is of limited value. The author refers to cases of foreign bodies in the trachea, abscess of lung following pneumonia, and solidified mediastinal gland, which gave rise to laryngeal symptoms that he diagnosed by X-rays.

The Petro-Squamosal Sinus: Its Anatomy and Pathological Importance.—(*Otological Congress Jour. Lar., Rhin. and Otol.*) This subject was presented by Mr. Arthur H. Cheate, on account of the little which had been written on it in anatomical or otological literature, and yet a study of the sinus and its variations had clearly demonstrated its importance as a way of transit to the brain for very serious conditions. The paper was illustrated by numerous anatomical specimens and photographs. Several cases were quoted in which the line of infection had been in this way, and it was suggested that we might have here one of the pathways which will solve some of the unaccountable intracranial affections met with by the physician, such as the posterior basic meningitis of infants, cerebro-spinal meningitis, and perhaps some cases of tuberculous meningitis.

Obstetric Aphorisms. By C. A. Von Ramdohr, M.D. (*Post Graduate*, April, 1900).—1. Never rupture membranes unless you are prepared to finish delivery at once, if necessary, or unless you intend to confine the patient artificially within a limited period of time. 2. External measurement of pelvis has to be practiced to yield trustworthy results. 3. The external (Baudelocque's) diameter is never reliable. 4. The distance between the crests should be about an inch greater than the distance between the spines. Equal distances or a larger inter-spine indicates a deformed pelvis. 5. Contraction at the outlet is extremely rare, and when it occurs is usually the result of an ankylosed coccyx. 6. If the index finger can touch the promontory there is always a reduced conjugate diameter. 7. If, on the introduction of two fingers, the middle one does not reach the promontory, the conjugate is normal or more than normal. 8. Whenever the whole hand can be passed through the superior strait, there is a possibility of withdrawing the child through the natural passages. 9. If the hand cannot be passed, there is an absolute indication for Cæsarean section.

—George H. Quackenbos, a patrolman on the New York police force, reads Greek, understands the sign language, is a good telegraph operator, has filled the chair of rhetoric in Seton Hall, New Jersey, and lastly, holds the degree of doctor of medicine of the New York University Medical College. He is the son of Professor George W. Quackenbos, professor of Greek and Latin in La Salle Institute, and is probably the only man who has forsaken medicine to wear the uniform of "The Finest."

—A new wing of the Middlesex Hospital, London, is to be devoted entirely to cancer cases, and the opportunity thus presented for the study of cancer will be unrivaled in Great Britain. A staff, consisting of a director, an assistant director and a registrar, has been appointed to carry out the work.

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Hartman in 1894, and again in a recent paper, calls attention to the connection between otitis media and gastro-intestinal affections in infancy, stating that loss of weight and elevation of temperature should always demand an examination of the ears, when it would be found that the tympanic cavity contained pus, and relief would follow its evacuation. He regarded the intestinal disturbance as a result of the resorption of the toxic poisons from the exudate in the tympanic cavity, rather than that the otitis media resulted from the infection entering the Eustachian tube during the act of vomiting.

In 1897 Ponfick published the details of 100 autopsies on children under four years of age, dying from various diseases, the vast majority of this number giving no

indications during life, or rather no suspicion to the attending physician, of middle ear inflammation, and yet 91 per cent. showed that the middle ear was so involved. The question naturally arises to how many was the cause of death due to this unsuspected, unlooked for and untreated suppuration of the middle ear? In 1896 and 1897 Barth examined 126 children under three years of age, suffering from various diseases, and found 92 per cent. to have otitis media to a greater or less degree. Pomeroy recently emphasized the importance of the general practitioner recognizing the frequency of otitis media in cases of gastro-enteritis and pleuropneumonia. The writer of the paper gives an interesting series of examinations upon 22 children in the hospital ward. Of this number 11 were under six months, the youngest being five days, and the remaining 11 between six months and three years, and the large percentage of the cases showed the presence of otitis media to a greater or less extent. His figures were given only to confirm other and larger reports.

Recurrent attacks of earache in children mean the presence of adenoids in the naso-pharynx. The adenoids may be the chief cause of the nasal disturbance, or very small and not interfering with breathing, but repeated attacks of earache, repeated gatherings in the ear, repeated attacks of deafness accompanying colds in the head, mean that there is in the pharynx, in the neighborhood of the Eustachian orifice, some hypertrophied lymphoid tissue, large or small in amount, which is exceedingly prone to acute or subacute inflammation tending to extend to the middle ear. One attack may be harmless, but repeated attacks must leave the ear in a damaged condition, or lay the foundation for that deafness which will surely follow in later life.

Pathological Changes Occurring in the Unobstructed Nostril in Cases of Deviated Septum.—E. L. Vansant (*Jour. Amer. Medical Assoc.*) One obstructed nostril means a greater amount of inspired air passing through the free one, thus causing increased functional activity of the mucous membrane and deeper structures, in order that the air may be properly warmed and moistened. This activity causes hyperæmia of the parts, particularly the middle and inferior turbinal tissues. The increased blood supply with the enlargement and proliferation of the overacting mucous glands and cells of the deeper tissues leads to a more permanent increase from the hyperplasia of the tissues, which may be regarded as a true compensatory hypertrophy. This change is first noticed in the tissues opposite the greatest concavity of the deflection. This tissue by reason of hyperæmia and excessive functional activity and exposure to mechanical irritation is peculiarly liable to inflammation, which, causing an increase of the interstitial connective tissue and great destruction of the glandular appendages, eventually leads to atrophy. This is usually first noticed in the lower turbinates. Then follows enlargement of the middle turbinated and increased activity, which in turn takes on inflammatory changes previously occurring in the inferior, and the anterior end being particularly liable to irritation, frequently becomes cedematous and polypoid. The mucous membrane lining the accessory sinuses becomes hyperæmic, irritated and inflamed from the first. Sooner or later the nasal chamber becomes septic. We then have marked atrophy of the lower turbinal, atrophy with associated polypoid degeneration of the middle turbinated, and a mucopurulent discharge from the accessory sinuses. We may have then three stages: 1. Hyperplasia of the tissues from over function and

compensatory hypertrophy. 2. Atrophy from inflammatory changes, and 3. Atrophy associated with sepsis of the nasal chamber and accessory sinuses. When the deviation is moderate with slight compensatory hypertrophy of the turbinates, a more open nostril may be the only pathological change noticeable.

Two Rare Varieties of Phlegmonous Angina in Children.—M. Katz (*N. Y. Med. Jour.*, from *le Progrès méd.*) reports a case of an abscess in the tip of the uvula in a nursing, and of a lingual periamygdalitis in a child of eight years after an attack of measles. In the latter case, the abscess evoked a laryngeal oedema, which disappeared instantly after incision. The author calls attention to the extreme rarity of phlegmonous infiltrations in these locations in children.

Retropharyngeal Abscess of Auricular Origin.—Dr. Melzi (Milan) finding only twenty-two cases cited of this condition as a cause for this trouble (*Jour. Rhi. & Otol.*) quotes the following case: A child two years of age with suppuration from both ears, and large perforations of membranæ tympani. Careful treatment relieved the discharge on the left side within a few days, and the right in three weeks. A month later the discharge returned, accompanied with severe coryza, bronchitis, and otalgia. Prompt treatment brought marked improvement on the right side, but after some days the child became feverish, refused nourishment, complaining of pain in the throat, and troubled and interrupted sleep, with snoring. There was a slight degree of stiff neck, and the submaxillary region was swollen and reddened. No change in the mastoid region, but there was marked congestion of the nasal and pharyngeal mucous membrane. During the night several attacks of suffocation. On examining the pharynx the following day an enormous retropharyngeal abscess was found, which, when opened, gave exit to a large quantity of pus. No ruggedness of the vertebræ could be detected, and a bacteriological examination of the pus from the ear and the abscess, showed the same bacteria to be present. After a few days all the symptoms disappeared and the discharge from the ear ceased. Three months later the child appeared to be in perfect health.

Lateral Pharyngeal Abscess Following Tonsillotomy.—Huber (*Abstract Jour. Eye, Ear & Throat Diseases*) reports the case of a rachitic child two years old, who had previously suffered from cervical adenitis, had both tonsils removed at one sitting, with the tonsillotome, followed in a few days by pyrexia and difficulty in swallowing, due to an abscess in right side of pharynx. This was incised with marked relief, but a few days later was followed by an abscess in the neck. After incision a drainage tube passed into the cervical incision could be brought into close contact with the wall of the pharynx.

X-Ray Work, Laryngological.—(*Jour. E. E. & T. Diseases*.) X-radiation has not accomplished as much in the department of laryngology as in other branches of medicine. It has, however, proved of great service to the laryngologist in the following lines, viz.: 1. In the detection and accurate localization of foreign bodies in the upper portion of the digestive and breathing tracts. It enables one to determine the advisability and character of operations for their removal. 2. In determining the ossification in the laryngeal and tracheal cartilages—a subject which has never been accurately determined before the advent of the X-rays. We can know now with scientific accuracy the time and the points at which all the cartilages ossify. 3. In the diagnosis of intrathoracic growths which cause some involvement of the res-

piratory tracts, either by compression of the trachea or some form of vocal cord paralysis. 4. The X-ray is likely to prove of distinct value in the early diagnosis of tubercular processes in the lungs. The observers must be trained to this line of observation in order that perfection may be obtained. The delicate variations in the shadows that form on the fluorescent screen can only be properly interpreted by practice. The therapeutic use of the rays is of limited value. The author refers to cases of foreign bodies in the trachea, abscess of lung following pneumonia, and solidified mediastinal gland, which gave rise to laryngeal symptoms that he diagnosed by X-rays.

The Petro-Squamosal Sinus: Its Anatomy and Pathological Importance.—(*Otological Congress Jour. Lar., Rhin. and Otol.*) This subject was presented by Mr. Arthur H. Cheate, on account of the little which had been written on it in anatomical or otological literature, and yet a study of the sinus and its variations had clearly demonstrated its importance as a way of transit to the brain for very serious conditions. The paper was illustrated by numerous anatomical specimens and photographs. Several cases were quoted in which the line of infection had been in this way, and it was suggested that we might have here one of the pathways which will solve some of the unaccountable intracranial affections met with by the physician, such as the posterior basic meningitis of infants, cerebro-spinal meningitis, and perhaps some cases of tuberculous meningitis.

Obstetric Aphorisms. By C. A. Von Ramdohr, M.D. (*Post Graduate*, April, 1900).—1. Never rupture membranes unless you are prepared to finish delivery at once, if necessary, or unless you intend to confine the patient artificially within a limited period of time. 2. External measurement of pelvis has to be practiced to yield trustworthy results. 3. The external (Baudelocque's) diameter is never reliable. 4. The distance between the crests should be about an inch greater than the distance between the spines. Equal distances or a larger inter-spine indicates a deformed pelvis. 5. Contraction at the outlet is extremely rare, and when it occurs is usually the result of an ankylosed coccyx. 6. If the index finger can touch the promontory there is always a reduced conjugate diameter. 7. If, on the introduction of two fingers, the middle one does not reach the promontory, the conjugate is normal or more than normal. 8. Whenever the whole hand can be passed through the superior strait, there is a possibility of withdrawing the child through the natural passages. 9. If the hand cannot be passed, there is an absolute indication for Cæsarean section.

—George H. Quackenbos, a patrolman on the New York police force, reads Greek, understands the sign language, is a good telegraph operator, has filled the chair of rhetoric in Seton Hall, New Jersey, and lastly, holds the degree of doctor of medicine of the New York University Medical College. He is the son of Professor George W. Quackenbos, professor of Greek and Latin in La Salle Institute, and is probably the only man who has forsaken medicine to wear the uniform of "The Finest."

—A new wing of the Middlesex Hospital, London, is to be devoted entirely to cancer cases, and the opportunity thus presented for the study of cancer will be unrivaled in Great Britain. A staff, consisting of a director, an assistant director and a registrar, has been appointed to carry out the work.

THE NEWER TREATMENT.

REPORTED FROM VARIOUS CLINICS.

Oozing from Gums Cured—This patient has lost her trouble, though she is still very weak from the loss of a considerable amount of blood. She was admitted November 26, and blood has continued to ooze from her gums until the last few days. You know she took various astringents internally. The thing that seems to have been most efficacious was a local measure, the application of a strong solution of nitrate of silver, about a dram to an ounce, varied from twenty to forty grains to the ounce. These are the solutions which are often applied to the throat with the idea of destroying the diphtheria organism. You know that it is the law that diphtheria should be placarded. There is no question that the organism will stay in the throat for a considerable time after the patient is practically well. If you do not paint the throat with nitrate of silver the bacillus may remain for weeks longer and the patient still be regarded as infected with diphtheria. All that remains of the treatment here is to restore the patient with tonics, iron and good food.

Pernicious Anæmia: Cause and Treatment—Our next patient was admitted yesterday. She is fifty-five years old. She has led a sedentary life, her occupation being that of a seamstress. On admission her temperature was normal and her pulse a little rapid, being ninety-four. Her family history is unusually good, and she was always well as a child and during youth. This is another important point in the diagnosis—that she had no chlorosis in her youth. She married and had three children. Several years ago her menopause came gradually, and without any of those disorders usually ascribed to that period. A year ago she had influenza, and she dates her present illness from that time, though until two months ago she went about her usual work. She complains of a feeling of coldness and numbness and a "jagged feeling," as she expresses it, whatever that may be. She has lost weight and her hair has grown lighter. Her appetite is capricious, she vomits rarely, her bowels are regular. Her first symptom was one of being tired; then followed the numbness of the hands which seemed to increase, and about six weeks ago the same symptom appeared in her feet and extended up the legs to the hips. There has been a loss of motor power and she has to lift her feet high in using them. The eyesight has failed, and glasses have not improved the vision. The mental faculties are not so much under her control as they should be. The heart and lungs seemed perfectly normal. There is no ankle clonus. Her grip is poor and she is slow to appreciate touch on the right side. Her sensation of location is not affected and there is not the Argyll Robertson pupil. There is practically nothing wrong with the urine.

Of course on looking at the patient we notice that she is exceedingly anæmic. Notice the peculiar lemon tint of the skin and the pallor of the conjunctiva; she has an exceedingly pale tongue and the anæmia is profound. I have seen persons with her complaint where there was greater pallor. The blood has been examined and there is just the condition present that one would expect in an anæmia of pernicious type. It is curious that the percentage of hæmoglobin is about double that of the corpuscles, the cells numbering 1,239,060, about twenty-five per cent. of the normal, while the hæmoglobin gives forty-four per cent. It is a condition which you never see in chlorosis where the

percentage of coloring matter is found much below that of the corpuscles. The differential count of the white cells is not much out of the way.

There is a condition which this may also represent—though I think not after the blood count is taken. But you may see something very similar in the later years of gastric carcinoma. We should be pleased when we find that this woman has pernicious anæmia rather than carcinoma. Carcinoma advances from bad to worse and is not amenable to treatment, physicians of the greatest experience taking the ground that when it is palpable as a tumor it is too late for operation.

Why is this not chlorosis? Even without seeing the blood count we could tell. A person does not reach middle life and have chlorosis for the first time, whereas in pernicious anæmia this is often the case. It is possible that there is some underlying cause for this condition. By some authorities a case is not considered one of pernicious anæmia if at the autopsy a lesion can be found accounting for it. I think this is a wrong stand to take. There may be precisely a similar condition in tape worm, and in a condition of extreme gastric atrophy. No doubt many of these cases do go on and at the autopsy nothing at all is found to account for it, but that is not saying that there is no lesion. In 1886 Professor Osler and I reported a remarkable case of anæmia due to extreme gastric atrophy, and I believe that this cause is often overlooked. Still it often happens that no cause can be found. Prof. Pepper thought in 1875 that he had found a cause in some change in the marrow of the long bones. You know that this normally is yellow and largely composed of fat. In pernicious anæmia it becomes pink or red and loses its fatty constitution altogether, returning to its foetal state. But unfortunately this change is not always present, and is on the other hand sometimes seen in cases that are not pernicious anæmia. The only change which is invariably present takes place in the liver, and that is secondary. A quantity of pigment is found which is believed to be due to the destruction of red blood cells. The present theory in regard to pernicious anæmia is that it is an excessive hæmolysis, the products of destruction being deposited in the liver.

The changes in the blood are extraordinary. If you examine a dry specimen you will find the corpuscles increased in size, and they often tend to assume an oval outline and some are found to be nucleated. And the change in size accounts partly for the increase in the relative percentage of coloring matter. The blood changes in general indicate a return to the blood of a cold-blooded animal, when they are two, or three or five hundred thousand to the cubic millimeter. In size and in shape they resemble them and to complete the comparison they are nucleated. It seems a complete retrograde process, as all disease must be of course.

In pernicious anæmia you find a fatty heart, and hæmorrhages taking place. I would be surprised if hæmorrhages were not found in the retina sooner or later. You will always find the muscles of a deep red color, and a canary color in the fat which imparts the lemon tint to the complexion.

The diagnosis I do not think is difficult if an examination of the blood is made. As to the duration of cases, I think the duration varies with each case. There is one thing you must remember, and that is the tendency to relapse.

Of course the drug to use is arsenic. The trouble is that people do not use it properly. I remember one where I was called in for consultation, where the patient

had had arsenic, but had not had it properly. He obeyed my instructions, and took arsenic in doses which were large for him. I have known persons to take twenty drops three times a day for long periods without any poisonous effects resulting. Then again I am in the habit of giving intestinal antiseptics. I like thymol as you know. A solution of bismuth is good, or beta-naphthol. We are indebted to Bramble of Edinburgh for our knowledge of the use of arsenic. Transfusion of defibrinated blood into the veins has been practised. The defibrinated blood is to be mingled with one-third its bulk of a five per cent. solution of the phosphate of sodium. I tried this at the Philadelphia Hospital two or three years ago. We did not know at first where we should get the blood, but there was an elderly colored man in the opposite bed from our patient, and we told him we thought he ought to be bled. He always thought he was greatly benefited by the bleeding, and possibly he was. The blood was injected, and in this case the man nearly died. He had bleeding from the nose. But possibly the blood was too quickly injected. One of the most interesting things about it was that the man from whom we took the blood was an epileptic, and the one we gave it to developed convulsions afterwards.

Treatment of Carcinoma of the Stomach.—A word or two about the prognosis of gastric cancer. It is practically hopeless as to recovery, and predictions as to the duration of the disease are very uncertain. Much depends on the seat of the tumor. For instance, one occurring at one of the orifices and occluding it, is much more dangerous than one that does not. Cases are reported in which death took place in two weeks, but these are very misleading, because the duration has been dated from the first known symptom. In all reliable cases, for a long time before the first overt manifestations of the disease there have been obscure symptoms. A well-known case is that of Napoleon Bonaparte, who suffered from severe attacks of pain for many years before he died of cancer of the stomach.

As to the treatment. Medicinal treatment here is altogether symptomatic, to relieve pain, to repress vomiting and hæmorrhage and to support the strength of the patient. Many years ago condurango enjoyed the reputation of being a specific, and was endorsed by a distinguished professor of Heidelberg, away back in 1874. The reign of the specific was barely long enough for parties interested to reap a pecuniary harvest from its sale. It soon fell into complete oblivion, but in 1887 two distinguished physicians revived its use, claiming that under long use of this drug palpable tumors disappeared and patients improved. In many of these cases of so-called cure doubts may be entertained as to the correctness of the diagnosis. It is not denied, however, either by me or by others who have used this, that it may be of benefit, and tumors may be diminished in size, these effects, probably, being due to a curative influence it has on the catarrh which invariably accompanies a cancer. I have used the drug in the form of fluid extract, but it is said to be best administered in decoction, and should be given with a few drops of hydrochloric acid to supply the deficit in the gastric juice. Benefit is derived only from a long-continued use of the drug. I think it does do good in cases where the catarrh is marked, and it is worth trying. I mention it because it is the only one.

Other indications to be met are the relief of pain and the control of hæmorrhage. Vomiting may be checked by the use of ice, champagne, opium or one of its preparations, or the hypodermic use of morphine. On account of the constipation which usually accompanies the disease, belladonna may be given with the opium. The symptomatic treatment depends a good deal on the position of the tumor. If at the cardiac, and the treatment is the same as for stricture of the œsophagus, and if at the pylorus the same as for dilatation of the stomach. If it leaves the orifices free, much can be done to prolong life comfortably with diet. You should not attempt to cram food down the patient's throat. Meat is not, as a rule, well borne, and the same is true of milk and eggs; then there is little variety left from which to choose. But the statement with reference to milk applies only in its crude state. When given as kumyss, or peptonized, it is often well borne. A patient recently under my care always experienced severe pain after ingesting solids, but milk was taken with impunity. In most cases you may give starchy foods—arrowroot, sago—and you may add a small quantity of brandy, which adds an agreeable flavor to the food. Gelatine is a valuable addition to the dietary on account of its albumin saving properties. One who eats a small quantity of gelatine may maintain life with a less amount of albumin; and another valuable property of gelatine is its decidedly laxative property, and it is also a very palatable article of food.

The surgical cure of gastric cancer consists in its radical cure by excision, or in the palliative measure of establishing fistulæ. The indications for these are furnished by stenosis of the pyloric and of the cardiac orifices. For the successful performance of gastrectomy the tumor must be circumscribed and the neighboring organs in healthy condition. Operation is not indicated as a rule until the disease is advanced, metastasis has taken place and the patient's strength is reduced. Such an operation seems to me useless. Persistent absence of hydrochloric acid from the gastric juice, a great reduction of the corpuscles, diminished excretion of urea and the other signs of latent cancer, it seems to me, are not enough appreciated by surgeons and never will be. A gastric cancer which shows itself by physical signs is too late for operation. Of course, they are operated on and life seems to be prolonged. The next surgical resource—gastro-enterostomy—has not yielded such favorable results. Of thirty-one cases collected by Kaiser, twenty-eight died immediately, and the remaining three survived only a few months.

When the stomach rejects all food and operative procedures are refused, a miserable existence may be prolonged by rectal enemata for a short time.

Lavage for Gastric Neurosis.—This patient had a gastric disorder of the neurotic type. She has much improved. The lavage has much benefited her. It does sometimes help these neurotic cases very much, perhaps more from its effect on the cerebrum than from any effect on the stomach. I should think the effect on the cerebrum would be very impressive. At first it seems to cause quite a little distress, though patients do get "addicted" to it. I recollect this patient was exceedingly nervous.

—"Man," says William George Jordan, "has two creators—his God and himself."

MISCELLANY.

—Forty cases of tetanus are now reported as having been treated with carbolic acid; four cases died and 36 recovered.

—Columbia University has been presented with \$100,000 by John D. Rockefeller for the endowment of a chair of psychology.

—Dr. Louis Kolipinski reports in the *Maryland Medical Journal* the arrest of persistent hiccough by depressing the tongue, which effect was accidentally discovered.

—There exists at Ealing, a suburb of London, as the caprice of a rich man, a toy hospital, to which broken toys may be sent for treatment, and whence they are later distributed to the children of the poor.

—After a varicose ulcer has been freed from pus by sublimate, horizontal position and elastic compression, it has been Coffin's experience (*Jour. Des. Mal. Cut.*, August, 1899; *J. A. M. A.*) that lightly moistening the surface with tincture of aloes will heal it up rapidly.

—Tarantulas are being raised in Australia for the sake of their webs, the filaments of which are made into thread for balloons. They are lighter than silk, and, when woven, lighter than canvas. Each tarantula yields from twenty to forty yards of filament, of which eight twisted together form a single thread.

—Mr. P. A. B. Widener, of Philadelphia, has announced his intention of giving that city \$2,000,000 for the establishment of a Home for Crippled Children. The Home will also include a hospital, which will be open to all without distinction in creed, color, sex or nationality. It will be located at Logan, where a tract of land covering 36 acres is being bargained for, on which to erect the buildings.

—John R. Rose (*Jour. Amer. Med. Asso.*, May 20, 1899) gives the four rules formulated by Bernheim and Beaunis, which should always guide one in the application of hypnotism to the treatment of all diseases. Never use hypnotism without the consent of the subject or the legal guardian. Never hypnotize except in the presence of a third party, who represents the subject. Never make suggestions without the patient's consent, excepting those necessary to effect a cure. Never use authority over a patient to secure his consent, if you have reason to expect disagreeable results from the experiment.

—Dr. William J. Morton, professor of nervous diseases in the Post-Graduate Medical School, is reported to have accomplished brilliant results with static electricity in the treatment of several hitherto intractable affections. Numerous cases of neuritis, locomotor ataxia in the earlier stages, and rheumatoid arthritis have been apparently cured, or their progress completely arrested by the use of the long percussive spark and other forms of static electricity. The possibility of this will, of course, be denied by many medical conservatives, but, as the *International Medical Magazine* says, "Dr. Morton is a scientific physician of unquestioned veracity, and moreover there is no lack of corroborative evidence as to the result in many of his cases."

—In view of the fact that morphinism is increasing among physicians, Dr. Crothers regards it as a caution which cannot be stated too strongly that a physician should never use the needle on himself, except by the counsel of a trusted medical adviser.

—At a scientific meeting in New Haven, lately, Professor Scripture, of Yale, reported progress in producing anesthesia by electricity. It is possible by this invention in its present stage to deaden sense so that pins may be inserted in the flesh without producing pain. The current has not yet been made effective in the presence of moisture, so as to be available in dentistry.

—The physicians of Johns Hopkins Hospital have devised a plan to prevent the mixing up of the newly-born in the obstetrical wards. A square of water-proof adhesive plaster, on which is written the baby's name, is applied tightly between the shoulder blades. This remains secure until the baby and its mother leave the hospital, when it is pulled off without giving the infant pain.

—Dr. John Gifford, the founder of the *Forester*, writes, in the January number of that paper (*Lit. Dig.*) of the high value of the eucalyptus tree as a sanitary aid. Its chief efficacy, he thinks, is due to the fact that it promotes drainage, acting upon the soil like a powerful pump. Dr. G. closes with references to the beneficial effects of the eucalyptus on the health of Jamaica, Australia, and the Roman Campagna. In Australia, especially, the immunity of the country districts from malaria is attributed to its action.

—The experiments and observations of Dr. Seneca D. Powell prove that when alcohol and carbolic acid are mixed in the cavity of a wound, the corrosive action of the acid is neutralized without interfering in the least with its antiseptic properties; and the experience of ambulance surgeons has been favorable to the internal use of alcohol in cases of poisoning from swallowing carbolic acid. The other day a young woman who was desirous of ending her life mixed the lethal dose of carbolic acid with some whiskey. When the ambulance surgeon arrived he found that the liquor had neutralized the poison and the girl suffered no serious injury.

—"The influence of the imagination," says the *Medical Press (Lit. Dig.)*, "is a factor with which physicians have to reckon very largely. A recent number of the *Psychological Review* relates an interesting experiment made by Mr. Slosson with the view of demonstrating how easily this faculty can be called into play. In the course of a popular lecture he presented to his audience a bottle containing distilled water, which he uncorked with elaborate precautions, and then, watch in hand, he asked those present to indicate the exact moment at which the peculiar odor was perceived by them. Within fifteen seconds those immediately in front of him held up their hands, and within forty seconds those at the other end of the room declared that they distinctly perceived the odor. There was an obstinate minority, largely composed of men, who stoutly declared their inability to detect any odor, but Mr. Slosson believes that many more would have given in had he not been compelled to bring the experiment to a close within a minute after opening the bottle, several persons in the front rank finding the odor so powerful that they hastily quitted the lecture room."

ORIGINAL ARTICLES.

DYNAMIC VS. MATERIALIST PHILOSOPHY.

BY E. C. GETSINGER, D.PH., DETROIT, MICH.

AS the finer forces of nature are being discovered, experimented with and properly classified, such delicate phenomena present themselves to our observation as tend to revolutionize some of the fundamental theories of science—such delicate results are attained, and so fine that but few minds trained in the grosser realms of nature's expression can adjust themselves to these delicate phenomena, yet so intense are these that they have given the dry bones of materialism a most terrific shaking up. And as the up-to-date thinker and scholar views the cyclonic upheaval following in the wake of the latest possibilities in physics, psychology, mechanical arts and the sciences, assisted by these finer forces—as such a one views the dismembered structure of science as organized by the sages of centuries—scattered around in a state of outlived usefulness, the former awe turned to a matter-of-fact, former reverence turned to neglect, from a former position of state as a king theory, now being gradually consigned to a shelf in a musty museum, it is then that the honest student of nature breathes this eulogy:

Old facts, like old castles, must crumble with time,

But out of their dust one more fair, more sublime
Ariseth, which maketh the God-given goal

Of this age, and must now be attained by the soul.

There are two schools of thought in the arena of science that hold views diametrically opposed to each other. One is the English school of materialism, of which the American school is a part. These hold that the primal atom is a particle of matter, substance *per se*, and as such manifests in the formations of nature, and that an attribute of matter is force.

Then there is the German school of philosophy, to which I add my discoveries, which holds that the primal atom is a particle or spark of force (kraft), and to this I add that matter as we experience it is merely an aggregated state of these dynamic particles, manifesting differently in a collective state from that of their primordial state. This is the dynamic philosophy, while the first named is the materialist philosophy.

When we investigate the cruder realms of nature, the materialistic school has a plausible claim to the field, but when we enter the realm of the finer forces, then the dynamists have the entire field, substantiating their position with such proofs as are even now far ahead of the times. But it will take time to properly classify these proofs so that the adherents of the former will be enabled to pass judgment.

If matter in its atomic state is of a substance whose nature is different from that of its force, then its force, which is an attribute or property of matter, is as original in creation as is the atom of matter itself. Then here also confront us two channels for classification. First—What phenomena are attributable to the elements of matter. Second—What are those attributable to its dynamic properties. Complexity is born at once. Materialists may say that the manifestations of matter in the form of compounds are based upon the nature of matter; and that the rotary motion, the vibratory motion, and degrees of combustibility, etc., are based upon the dynamic attribute of matter. If this is true, or is an ultimate truth, then it will be ultimate in its simplicity.

If it is not true, then a more simple hypothesis is possible, and this I will endeavor to offer in an incomplete form, for want of space and also for the reason of retaining the most important explanations for my forthcoming book.

In the materialistic philosophy of matter we hold to the following basic principles:

- 1.—The materiality of the elementary atom.
- 2.—The dynamic property of the elementary atom.
- 3.—The multi-polarity of the atoms according to the element.
- 4.—The law of atomicity is decided by the number of poles.
- 5.—The gravitative motion is decided by the weight of the atoms.
- 6.—Its rotary motion is caused by the dynamic attribute.
- 7.—The atom cannot vibrate since it is concrete, for this reason.
- 8.—It must be the dynamic attribute of atoms which vibrate.

These same principles are contained in the dynamistic philosophy of matter, but are differently explained in my theory:

- 1.—The dynamic nature of the primordial atoms.
- 2.—There is no other attribute.
- 3.—The bi-polarity of all atoms, centrifugal and centripetal.
- 4.—The chemical nature is decided by the size of atoms, or the volume of dynamic force in each elementary atom.
- 5.—The atom being dynamic force manifests in three motions, viz.; rotary, vibratory, and the gravitative motion, which is the recoil of the rotary motion.
- 6.—Specific gravity is decided by the volume of recoil in the rotary motion.
- 7.—The law of atomicity is decided by the size of atoms.
- 8.—The atom vibrates as a whole in the same manner as a spiral spring, like closing and opening your extended fingers.
- 9.—The atom being dynamic force, only manifests as matter by aggregation. Thus one atom is force, but ten atoms uniting forms matter, another manifestation of force.

In analyzing the materialistic premise of matter the question arises:

If the primordial atom is matter, what was the state of this substance before it was particle into atoms? What is the origin of the dynamic property or attribute of the atom, and what was its state before becoming a property of these particles of matter? It is evident that the atom itself must have experienced a process of evolution, and that in the atom must originate the very law of evolution. If the atom did not evolve or was perfected at the time of creation, or did not possess the potentiality of unfoldment, then the whole universe, being composed of atoms, could not evolve. I challenge the whole scientific world to refute the fact that an aggregated mass as a whole, can only possess the attributes which its particles bring with them. Or, plainer still, to deny that whatever is the potentiality of the particles of the mass, is the potentiality of the mass—no more, no less. Did the law of evolution—the tendency to unfoldment—become a factor after the universe, the world, the animal, the man became an expression of nature? Certainly not? The mechanical structure of the universe is merely the expression of the potentiality of the atoms of which the universe is com-

posed. Did these not possess this innate potency, then the universe would never have been molded into its present form.



MATERIALISTIC ATOMS.

Dotted Lines, the Dynamic Property of Matter.

The materialistic idea of the atom is illustrated in hypothetical figures as given above, from an angle with a curved base, to a figure having thirty-two corners, illustrating the thirty-two poles of the atoms to which attach themselves as many other elements which in turn forms a compound, or a molecule. There are at most only a few atoms that can possibly contain a curve in their design or form; all others are designed by a series of straight lines, and yet when we view the earth's formations we find that curves predominate a million to one.

Is it possible that while the atoms are formed by a series of straight lines that the world made up of these atoms should rebel and form objects and species whose forms are a series of curves? But the cause of design was outlined in my first article. Only in the mineral kingdom—a very limited domain—are found the crystal formations, objects whose forms are in angles and lines. Then as we proceed from this small domain into the zoophyte kingdom curves at once manifest in the designs of the natural formations, and from this realm upward all forms are shaped in curves. Now then, were the designs of atoms formed by straight lines, then the forms or designs of objects in nature would follow out this law, for the laws of the atom must be the dominant laws governing the objects which these outline in the natural world. It will be seen by the illustrations of the materialistic atom, that only two or three can possibly be formed with any curve whatsoever, then follow sixty-five whose designs must be in straight lines—if the materialistic hypothesis be true. How can the law of curves be dominant in the formations of nature, when the law of lines and angles dominate in the atoms? It is the atom and its potentialities which found the laws of nature. The formations of life and species are the results of these laws in their concordant state.

If the atoms in the original nebulae were mostly shaped in lines and angles, then the sun as a mass would have formed into the same shape, because the energy which rotates the atom does not decide its shape, so likewise, while this combined energy of the atoms in the original nebulae would perhaps cause the nebulae to rotate, but this rotation would not decide its shape, if it did not decide the shape of the smallest particle—the atom. The very law of economy in nature and conservation of energy makes this impossible. The sun would not be a globe unless the atoms were spherical. Then again, matter has elasticity. How can this be when the atom is a solid, concrete particle and indivisible.

In the dynamic theory of matter I offer the following:

When we analyze the dynamic theory of matter, it is only necessary to consider one cause and one fundamental principle—that of force. In considering the materialistic theory we must consider two principles—matter and force. In both theories it is accepted that ether is a subtle medium in which all substance is immersed, whether substance be matter or force. Nobody knows what ether is. Your theory or mine is just as authoritative. I believe it to be a *a priori* state of force, fluidal in nature, concrete in state, that is, not composed

of atoms or parts; that it existed before the atoms existed and when these were projected into being they were created in ether. *An atom is a wave of dynamic force which displaces the ether in which it is immersed in the same way that a spark of electricity displaces the ether on this sphere.* The shape of the atom is decided by the path of least resistance, and since this is spiral, the shape of an atom is a spherical spiral. There are other reasons for this shape and the evolution of the same which cannot be given here. A spiral sphere of force, such as the atom, can vary in size and can have but two poles—centrifugal and centripetal.



DYNAMIC ATOM—MY THEORY.

The dynamic atom is not a solid, but is an indivisible, elastic particle, of several spiral lines whose elasticity need not disturb any function or manifestation thereof. The interstices between the lines of the atom is not a vacuum, but is filled in by the ether, *for the path of the force is the atom's form.* The dynamic atom needs no other attribute than its substance to make it rotate, vibrate, or gravitate, since it is force in itself and must of necessity have motion as its only mode of expression, for the reason that a particle of force can do nothing else. There is no such thing as motionless matter. The gravitative motion is merely the recoil of the rotary motion, for a particle or mass which rotates in one direction will move as a whole in the opposite direction from which it rotates. Hence gravitation is an atomic motion, and the cause of gravitation is thus explained.

I have a mechanical device with which I demonstrate this theory, and also the transmutation of motion, and have done so before many learned people during the past seven years.

The dynamic atom has but two poles and the law of atomicity is based upon the volume of force in the atom, or its size. For instance, the atom of hydrogen and of oxygen have but two poles, but the atom of oxygen is eight times smaller than that of hydrogen. Thus, according to the law of harmonics do compounds form according to the volume in one atom over another.

In harmonics we find that a certain tone vibrates or diffuses energy at the rate of 200 units a second and let us call this A, the next tone B vibrates at 217 units a second, and so on up the scale until we find that the eighth tone vibrates at 400 units a second, which gives forth the octave tone of the first mentioned, thus while the tone is the same, yet it only differs in quality. Since the atoms vary in size, they are like the tones, the first the largest, the second a trifle smaller, and so on down the scale until we reach the eighth one, which would be the octave element to the first, because its unit of force as an atom is one-eighth of the first. Thus the eighth element might be the same in nature as the first, but differ only in quality, thus the elements are arranged in octaves, seven in each class, making the first seven the primary elements and all others octave expressions of the same, forming compounds, according to chords and discords, major and minor, the mathematics of which would be the same as the mathematics of musical vibrations and their combinations.

A molecule is a chord formed by the infinitesimal volumes of force contained in the atoms, their different sizes being as various tones, bass and tenor. Some-

times they form in accordance with octave relationship, and yet always form according to the law of periodicity. (See Mendelejeff's Periodic Law). When I had worked out the above theory of a periodic law in atoms, I was entirely ignorant of the fact that Mendelejeff, of Russia, had published a work on this law many years before me—in fact near the time of my birth, but he gives no cause for the same, which I take the liberty to undertake.

As soon as an atom combines with other elements, the combined volume of dynamic force in that molecule would necessarily be changed and manifest as matter in accordance with the increased volume of force in the mass, or from the chemical manifestation of the individual atoms, to the chemical manifestation of the whole, or volume contained in the mass. Thus compounds are merely different chemical natures from those of the elements, in the same way that a chord is a combination of sounds, while one tone is likewise a sound, but of less volume. The chemical compounds that can possibly be formed are limited in their number by the fact that in seventy elements there are ten octaves of atoms, and only as many compounds are possible as there are combinations possible in ten octaves, and their arrangement. To illustrate further, only as many chords are possible to be formed with seventy tones on a piano as combinations of tones are possible in ten octaves. At this writing I am unable to state the number because I am forced to write these articles while traveling, without a line of notes, or without a book for reference.

In the entire law of electrics, the spiral path of the conductor used, or the induction coil, is the secret of intensification of the electrical energy, while the conductor or wire placed in a straight line tends to its dissipation. All dynamic entities or forces operate under a few simple laws, be it the dynamic atom, or the electrical energy. All forms of motion or of energy are transmutable. This is true with the gravitative motion of the atom, which, when transmuted, such atoms and molecules are levitated and remain suspended, forming gases and atmospheres around the earth and thus tend to sustain life. Since the gravitative motion is the recoil or negation of the rotary motion of the atom, this motion is transmuted into another expression (by a process which I cannot explain at this time) and finally becomes that property which distinguishes animate from inanimate matter. It is this transmuted motion which, when manifested in matter of the vegetable and animal kingdom, makes that substance food, and without this transmuted motion that same substance is poison to human and to higher animals, but to lower animals this same poison may be a food. It is this motion when transmuted into a dynamic atmosphere surrounding the atom or the molecule, which physicians find as a curative property when potentizing a curative substance. This atmosphere partakes of the chemical nature of the substance, but is purely dynamical and of a most rarefied degree, and can be transmitted to a non-medicinal substance, and in this state becomes a therapeutic agent whose effects are akin to that of the drug, but without disturbing the chemical organization of the body. It only effects the dynamical inequilibrium of the body, but indirectly induces a chemical equilibrium. Judging from some observations I have made I would state that in some classes of patients it seems that any extreme high potency has almost the same effect as would an induction of the crude drug, any way, it is always safe to strike a happy medium. It is a mistake for physicians to adhere too

closely to the mineral kingdom for their remedies. It is not the best degree of potentizing when one takes an iron nail, and dissolves it, then to potentize that product into a therapeutic agent, because the atoms of iron in the nail have not as yet transmuted the gravitative motion into a dynamic atmosphere, and will not until that iron has formed a species in the vegetable kingdom; and when a low potency of such a remedy is taken into the system it has a tendency to lower the vitality of the patient because the remedy must be refined by the patient before it becomes a purely remedial agent. It is best to go to the vegetable kingdom for remedies used in most cases, and as high up as possible. The grape contains several fine substances and the very best quality of iron.

The animal kingdom is to be avoided when potentizing a remedy, for the reason that the dynamic transmutation is too complete and will be too prolific in its effects and even dangerous when very high potencies are used. The therapeutic agent of Hahnemann's philosophy is the gravitative motion of atoms transmuted into another manifestation of energy, and when potentizing from one to seven, you intensify to one octave in the realm of therapeutic agents, and the fourteenth potency the second octave and so on. When the followers of Hahnemann once understand the force with which they are dealing, then these will regulate and classify their potencies into octaves, also classify their patients into octave classes and arrange their remedies and potencies according to the law of correspondence.

When the real secret of the nature of matter or the substance of the physical universe is known it will be as simple and sublime as music. Then the healing soul in God's domain—the physician—will have a more substantial foundation for his work, and go ahead with greater assurance, for then he will know the full limitations of his remedy and not fear any unlooked-for results. The scientists will know all of the laws of nature and find that there are only seven, all others being octave laws of these seven. That all laws are dynamic conditions and affect all objects corresponding to these conditions, and where an object corresponds to a dynamic action, it responds thereto at once, then that object becomes a plaything to such energy and in that moment this becomes a law.

A disease is a dynamic inequilibrium in the life-force of a patient. When you find a dynamic agent which corresponds to the disturbed locality in the patient then by the law of correspondence you make a cure and not until then. The law of correspondence is manifested everywhere, and were atoms not classified into octaves, and every eighth atom were not a correspondent to the first, then the law of correspondence would not exist, but from this fact alone it is a universal law and co-operative with all natural laws. The whole structure of the piano is formed according to the law of correspondence—octave after octave tones form the medium of many combinations. So is it with the atoms. In playing a musical instrument you toy with the laws of the universe—one law more intensely vibrant than the preceding one, until its octaves are formed. Since the atoms vibrate, vibrations is one of the universal laws.

—With the aid of a fine new camera-telescope, recently installed at the Royal Observatory at the Cape of Good Hope, evidences of the presence of oxygen have been discovered in several stars. This has hitherto been sought in vain, and it is also one of the elements which have not yet been discovered in the sun.

THE TREATMENT OF ASTHMA; METHYL BLUE IN VESICAL IRRITATION.*

BY THOMAS HUNT STUCKY, A.M., M.D.

Professor of the Theory and Practice of Medicine in the Hospital College of Medicine, etc., Louisville, Ky.

THIS patient, Mrs. H., aged fifty-eight years, comes to us for treatment because of asthma, from which she claims to have suffered for several years. The diagnosis of this condition in the majority of instances is comparatively easily made. There is a characteristic breathing, lifting of the shoulders, sinking in of the chest during inspiration, opening of the mouth, wheezing, etc.; we also have in many instances a flattened chest associated with asthma.

The question as to the causation of this condition is one of great interest. We recognize the fact that stenosis anywhere within the respiratory tract will produce asthmatic breathing. We recognize also the fact that cardiac lesions, where there is an interference with the return circulation, in other words, a damming up of the blood, will produce a condition akin to asthma. We also know that it not infrequently comes on secondarily from disturbances of metabolism thought to be gouty in origin. In a chest of this kind where there are so many sounds, it is sometimes absolutely impossible to determine whether there is a cardiac lesion or not. We recognize the fact that we may have sonorous and sibilant sounds throughout the lung, and we also have a peculiar characteristic cough spasmodic in character.

Examining this patient's mouth I find there is absence of many teeth, hence the first element of the process of digestion is interfered with, viz.: there is imperfect insalivation, imperfect mastication, therefore there is an increased amount of work thrown upon the stomach which it is unable to perform. This can be demonstrated from the fact that without teeth there cannot be mastication, without mastication there cannot be insalivation, and without insalivation there cannot be perfect digestion, especially of the starchy foods.

I believe in this case the dietetic influences are very important. There is an absolute necessity of keeping the patient on a diet that can be handled, a necessity for paying strict attention to assimilation. It is important to instruct the patient as to the necessity of perfect digestion in so far as it can be carried out. If we accept the theory of gouty diathesis as the cause of conditions of this kind, as laid down by Haig, the uric acid theory, other remedies would be indicated. Considerable stress is being laid upon the importance of giving alkalis at the present time, in full doses—a teaspoonful to a dessertspoonful in a glass of water every three hours.

Another important point is that in all these cases water is a great factor, that is flushing the genito-urinary tract, eliminating the offending substances, uric acid, lactic acid, or whatever they may be; the carrying away both by the alimentary tract and by diuresis of all toxic principles, at the same time raising arterial tension, quiet the nervous system, and paying particular attention to bringing the digestive system up to par.

I am more and more convinced every day that a large percentage of these cases are curable; I am impressed with the fact that the vast majority of them are dependent upon disturbances of metabolism or intestinal disturbances; that the vast majority of patients who are asthmatic are made so mechanically, due to fermentative changes taking place within the intestine,

*Clinical Lecture delivered at the Hospital College of Medicine, Louisville.

and the distension of the transverse colon and pressure resulting therefrom. I have relieved acute asthma in five minutes by the colon douche, by large doses of purgatives, by nitro-glycerine, by raising the arterial tension, by using the pearls of nitrite of amyl. So you see that the drugs which are of service in the treatment of this condition are indeed numerous, but the principle laid down of elimination and sedation is the true principle in the management of all these cases.

There is a peculiarity in asthma which is generally striking, that is the shoulders are raised nearly always. It is simply to produce chest expansion; it is to relieve the pressure and to get air. Another thing to which I desire to call your attention in connection with these cases is that even with the thermometer at zero they insist upon having the windows open to enable them to get more air, they are suffering for want of air, respiration is seriously interfered with, and in the coldest weather respiratory efforts will often cause the perspiration to stand out upon them. Do not hesitate to leave the windows open under such circumstances, let them have all the air they can get, I have never known such a patient to take cold, and they cannot get enough oxygen in a warm closed room. I have known such patients to sit in an open window in extremely cold weather for hours without any bad effects.

This patient is fifty-eight years of age; she had the change of life ten years ago, since which time she has had asthma; there is a distinctly neurotic history. Nature has stopped drainage through the menstrual function, and being unable to compensate for this the system has become loaded with uric acid seriously affecting the nervous mechanism of the economy. She says her bowels have always been fairly regular, that she suffered with headaches years ago, principally located in the back of her head; kidneys always acted freely, she has to get up at night to empty her bladder; pain in the stomach running back to the shoulders; rheumatic pains throughout the body, legs and knees; there has been at times some nausea, but no vomiting; sour belching three or four hours after eating, especially any kind of meats eaten causes her to suffer more from shortness of breath, etc.; never had diarrhea; bowels act three or four times every day; asthma worst in the morning, and especially so during bad weather.

To sum up the history obtainable in this case, without making any examination, we find that her trouble dates from cessation of menstruation, or that period of life known as the menopause. We recognize at that time that there is great change taking place in the nervous system, while the woman is preparing herself, so to speak, for the exit from, just as we might say of her entree into, her child-bearing period. The same changes exactly take place. There is a destruction of function with necessarily a compensation on the part of other organs to carry off that which should have been eliminated by the ovarian and uterine channels. Now the question at once comes up, what becomes of this waste material? Is it taken up by the circulation and eliminated by the alimentary tract, skin and the kidneys, or is there a complete cessation and simply an accommodation to the loss? It strikes me that this accommodation must take place through the systems named, because you will find after you have been in practice for some time cases of this kind consulting you with a history similar to that given by this patient. You will notice that there is a rheumatic tendency and a gouty history without the history of any acute inflammatory trouble whatever, and the fact of changes in the nervous system, the fact of the history of wandering

pains, of three or four alvine evacuations a day, loss of teeth, imperfect mastication and gastric disturbances following ingestion of certain articles of diet, it would lead you to believe that in cases of asthmatic breathing the trouble was entirely dependent upon uric acid or the gouty diathesis; and your treatment will be conducted accordingly.

In this case we will assume that the trouble is due to imperfect digestion entirely, and our treatment will be instituted with this idea; in other words we will endeavor to complete that which has been incompletely performed, and see if this does not bring about a cure of the asthma. Remember that you can often relieve asthma by thorough elimination by the intestinal tract; and the same thing can sometimes be accomplished through the kidneys by active diuresis.

I suggest that we give this woman the following: Caroid, a vegetable digestant acting in any medium, non-toxic in its action; hydrastin, alkaloid of the golden seal, intestinal antiseptic and bitter principle, therefore a stomachic tonic having the power to stimulate peristaltic movements; podophyllum resin, stimulating the hepatic secretions even more than they are apparently stimulated by irritation; extract of hyoscyamus, a stimulator of peristalsis, mydriatic, stimulating the capillary circulation, therefore a heart stimulant, and seeming to have a sedative influence upon the lower part of the intestinal tract and lessening thereby any tenesmus which the podophyllum may produce. We will make twenty capsules for Mrs. H., one to be taken after each meal of the following:

R	Caroid	Grs. xl.
	Hydrastin	Grs. iv.
	Podophyllum resin	Gr. i.
	Ext hyoscyamus	Grs. x.
M.	—Ft. capsules xx. Sig.: One after each meal.	

It is barely possible that the hyoscyamus may produce a little dilatation of the pupils owing to its mydriatic power, and it may be necessary to reduce the quantity; as a rule though, in women over forty-five years of age they seem to bear rather full doses of this agent.

We will instruct the patient to report to us one week from to-day that we may see what the result of this treatment has been. We shall hope by the combination given to produce a decided amelioration, if not a complete cure, of all the symptoms of which she complains.

Case 2.—Mrs. W., aged forty years, came to us for the first time a week ago, complaining of pain in her legs from the knees down, pain worst at night; she said that she could not sleep at night because of the pain in her legs. Increase of bone pains at night is always suspicious of a certain malady, especially when these pains attack any of the long bones of the lower extremities, and particularly if there be a continuation of them? She was given methyl blue in two grain capsules, one to be taken after each meal, and another at bedtime.

You will remember when she was before us last week she gave the history of having had chills, which quinine failed to influence. Coming on with these chills there was a very marked vesical irritation. There was no blood in the urine upon examination, the irritation seeming to be due simply to hyperacidity of the urine. We gave her methyl blue for its antiseptic influence upon the bladder, and for its anti-periodic effect. It seems to have acted satisfactorily so far. In this connection I would like to lay some stress upon the usefulness of methyl blue as a substitute for quinine. Outside of being the means of coloring and disinfecting the urinary secretion, and acting beneficially upon catarrhal conditions which may take place in the digestive tract,

we find that it has some very excellent properties. In hematuria of malarial origin it has given me better results than any drug that I have used, giving it until the urine becomes thoroughly blue, three grain doses three times a day being my rule. After the urine has become thoroughly blue and begins to fade to green and light blue I repeat the doses of methyl blue, believing that so long as the urine is blue there is an urgent need for methyl blue in the economy. Or, in other words, that it is retained longer, that a more diffuse action is secured, than by any antizymotic or antiperiodic that we now have. In enlarged prostate and vesical irritation of the old characterized by much mucus in the urine, frequent micturition, etc., and in cystitis it has proven of the greatest service.

Now as a substitute for quinine in the treatment of malarial conditions alone; while it has not always given the results desired, in very many instances we have been able to control the paroxysms and to secure the disappearance of the plasmodium of Lavarán from the blood by methyl blue, where the cases did not yield to quinine. Now this alone should give the drug a prominent place in our Pharmacopœia. We have to contend with the fact that there are a great many preparations on the market that are unreliable in their action. If I order methyl blue and it does not turn the urine blue, I simply change to another druggist or another make.

In the treatment of gonorrhea it strikes me methyl blue would be of the greatest service, because charging as it does the kidney secretions, methyl blue being eliminated entirely by this channel, it brings in constant contact with the inflamed membrane an antiseptic wash which could not be secured in any other way. In other words, an injection is given constantly from behind.

SOME OBSERVATIONS ON THE PROGNOSIS AND TREATMENT IN THE SO-CALLED CATARRHAL DEAFNESS.*

BY DUNBAR ROY, A.B., M.D., ATLANTA, GA.

Clinical Professor of Eye, Ear, Nose and Throat in the Atlanta College of Physicians and Surgeons;
Oculist and Aurist to Grady Hospital;
Fellow of the American Laryngological, Rhinological and Otological Society, etc.

IT seems superfluous in me to try and discuss the subject of deafness when our medical journals and programs of annual and monthly meetings teem with so many aural dissertations. And, on the other hand, I must confess that I bring before you no startling discovery nor miraculous cure, nor will I even present any rare pathological specimen. My only excuse for trespassing upon your time with such a hackneyed subject is purely from the fact that my clinical experience has impressed upon me certain truths which cannot always be found in text-books and which have not been given that degree of prominence which they deserve. There is probably no portion of medicine which opens up a broader or more inviting field to the quack and charlatan than is embraced under the dual word "catarrhal deafness." Deaf people are like drowning men, and a straw to such is always filled with restoring grace.

Barnum never uttered a greater truth than when he

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said "the American people like to be humbugged," and I have often thought that he must have had in his mind the deaf American people.

Deafness is a general term and but signifies a specific condition of the aural apparatus without designating the particular portion of the apparatus which is involved. Certain pathological conditions existing in any of the three divisions of the ear, external, middle, and internal, will produce deafness, and the question of diagnosis and consequent prognosis rests upon which portion is involved.

Routine or problematical treatment of any pathological condition should not be a habit possessed by any scientific physician. Because text-books lay down certain treatments in certain diseases is no reason why the physician should always follow such teachings. Cause and effect are closely correlated and the successful physician is he who studies closely the relationship of every accompanying sign and symptom. You may look around and note the successful consultant and you will find a man who studies minutely every case just as if he had never seen a similar one before. The principle enunciated in general, is still more applicable to him who undertakes to treat successfully aural diseases. Much advancement has been made in the last few years in aural surgery, especially that of the mastoid, but with this exception we have not made any wonderful strides since Wilde and Toynbee published their work some fifty years ago. This statement will probably be strenuously denied by many specialists of the present day, but such is made after a close perusal of an old book on "Diseases of the Ear," by Joseph Toynbee, F.R.S., published in London in 1860. With exception of better illustrations, as exemplified by the printer's art, and leaving out the operative treatment of the mastoid, and the failure to recognize adenoid vegetations as a usual factor in middle ear troubles, this old book of Mr. Toynbee's is as clear an exposition of aural diseases as can be found in any of the text-books of the present day. It is a good deal clearer exposition of the subject than the majority of the modern text-books, in that the author gives results obtained from personal investigation and experience. The plates in this book of anatomic and pathologic ear specimens are all taken from his own dissections and every portion of the temporal bone is beautifully represented. It is a pleasure and a profit to peruse the pages of this old book and in so doing I have gained much valuable information.

The arrangements and classifications are different from the more modern works and yet there is a logical sequence which appeals to the student. No subject is discussed without its being followed by illustrative cases from practice—a happy feature of any text-book—and it is surprising to find the treatment therein contained quite similar to much that is used to-day.

During the last few years there has been too much of a tendency, especially among specialists, to publish text-books and manuals showing their own name on the title page when frequently, and, in fact, most often, the whole work is nothing more than a compilation of the subject from older authors. I have never thought that such enhances the reputation of its author and adds nothing to our present knowledge.

Deafness due to some pathological lesion of the external ear as obstructions are, as a rule, easily recognized by the experienced otologist and likewise easily remedied. It is in diseased conditions of the middle and internal ear that deafness arising therefrom gives us the most trouble.

Physiological experiments and anatomic dissections

must as yet be the chief factors in furnishing us with knowledge concerning the internal ear and a basis upon which to form a diagnosis when that organ is diseased. It is true that comparative tests, as, for instance, with the tuning forks, have given us much valuable information in reaching a diagnosis, but the experienced clinician will have to admit that even these tests are by no means positive. Leaving out of consideration the treatment of internal ear lesions as a cause of deafness, for when such has been recognized during life the treatment is quite uniform among otologists, we wish to consider for a few moments the pathologic conditions of the middle ear which produces this symptom and what benefit we may expect from the various methods which have been proposed for its remedy. We would make a still further limitation by considering the deafness dependent upon the so-called "dry catarrh" of the middle ear. Unless we recognize that even this dry catarrh presents two entirely different histopathologic conditions, our treatment can never be definite and it will be fortuitous should success attend our endeavors. In this day of quickly made specialists the public is made to suffer through ignorance, for they treat all cases alike; being ignorant of the very first principles which are needed for the recognition of these pathologic states.

"A primrose by the river's brim,

A yellow primrose was to him and nothing more."

It is plea for a more minute study of every case of deafness why this paper is brought before you to-day and to deprecate the habit of having a routine treatment for all cases. Bear in mind that I am not considering deafness dependent upon otorrhea, but those cases where the drum is intact and the middle ear is not open to ocular inspection.

Clinical experience has taught me that prognosis in these cases is dependent upon:

1. Age of the patient.
2. The pathologic condition of the nose and nasopharynx.
3. Duration of the deafness.
4. Condition of the Eustachian tube.
5. Mobility of the drum and ossicles.
6. General health of the patient.

1. Age of the patient. All experienced otologists must agree that deafness in the young, dependent upon a catarrhal condition of the middle ear, is much more successfully treated than when it occurs in the adult and in the old. In fact, my own experience teaches me that success in treatment is in direct ratio to the age of the patient. This is accounted for in two ways: (a) The duration of the deafness is naturally longer the older a patient is, and (b) nasal and nasopharyngeal lesions occur more frequently in the young and as a rule are more amenable to treatment. One great reason why the prognosis of deafness in the young is so favorable is due to the frequency of the presence of adenoids and enlarged faucial tonsils, by the removal of which there is always a marked improvement in the deafness.

2. Pathologic condition of the nose and nasopharynx. The prognosis for a catarrhal deafness is always more favorable when there exists distinct morbid conditions in the above parts and which can be removed through appropriate treatment. The fact that the mucous lining of the middle ear and Eustachian tube is continuous with that from the nasal cavities and nasopharynx readily accounts for the causal dependence between the two. Stenosis of the nasal chambers from all causes, nasopharyngeal catarrh from adenoids or the remnants

of such are conditions frequently found which exert a baneful influence upon the functions of middle ear. If they exist and can be removed the prognosis for the deafness is certainly more favorable, although such conditions are not always a *proper hoc*. I believe, however, that too much importance has been attached to such morbid conditions, as mentioned above, and that the prognosis has been often more sanguine than it would otherwise have been. I would not have you think that I underestimate the close relationship existing between the catarrhal deafness of the middle ear and the pathologic conditions just mentioned, but that such are the whole cause when they exist, as some would have us believe, I would never admit. There is some undiscovered reason for deafness, look at it as we may, and until we discover it we shall never be able to tell why one patient who has a perfectly normal throat and nose is a sufferer with deafness and the man whose nasal cavities and naso-pharynx are both diseased goes through life untouched.

3. Duration of the deafness. This is self-evident to the experienced otologist. The longer the pathologic conditions which have aided in producing the deafness have existed the more marked are their influence on the tissues and consequently the more difficult are they of removal.

4. Condition of the Eustachian tube. For years this one organ in our body has been made to suffer for the sins of others. The idea that all catarrhal deafness is caused by diseased condition of the Eustachian tube, especially that of stenosis, is as deep-rooted in the minds of many physicians as is the Rock of Gibraltar.

That such is frequently the case all must admit, but that it is universally so is erroneous teaching. The habit of inflating every ear which comes to you for treatment is unscientific and sometimes injurious. While not so frequent, yet undue patency of the Eustachian tube may exist as well as stenosis. Experience has taught me some valuable lessons which cannot be found in books. There are two ways of ascertaining the patency of the Eustachian tube; the first is by means of the catheter and auscultation tube, and the second by means of bougies. No conscientious otologist should ever inflate the middle ear without using the diagnostic tube, for the sensations of the patient are too unreliable to be depended upon. By the constant use of the auscultation tube and the same catheter one can soon learn to diagnose the condition of the lumen, just as by auscultation the physician learns to diagnose the condition of the lungs and bronchial tubes. I say the same catheter because if different ones be used with varying sized lumens the sounds heard will also vary. The Politzer bag has been discarded for two reasons: (1) Because it frequently blows mucus from the nose into the Eustachian tube, and (2) because it is very difficult to keep clean. In chronic catarrhal deafness the medication of the tube and middle ear can only be satisfactorily accomplished by means of the catheter if we wish to obtain the best results. To my mind there is but one kind of catheter to be used and that is the pure silver, which is capable of being bent, and thus able to be made to fit the nasopharynx of every patient. To pass properly this instrument requires some little knack, and when the physician finds that he does not possess this quality he had best use some other method of inflating the ear, rather than injure the mucous membrane. The slightest trace of blood following the use of this instrument indicates that it has been used improperly. With children it is best not to use the catheter, and during the last few years I find that an

apparatus like the multiple comminuter or globe nebulizer, attached to a compressed air-cylinder, accomplishes all that could be expected, and causes much less fear to these young individuals than any of the other methods.

5. Mobility of the Ossicles and Drum. Ankylosis and membranous adhesions in the middle ear prevent free motion of the ossicles when the drum is vibrated. As a rule, adhesions are surmised when the drum is retracted. The mobility of the drum and secondarily that of the ossicles is best ascertained by means of Seigel's pneumatic speculum, which produces suction in the external canal and at the same time allows ocular inspection of the drum. When this instrument shows distinct immobility of the head malleus and also the handle, and when only the free portion of the drum membrane moves backwards and forwards the presumption is very strong that the ossicles are ankylosed or bound down with adhesions. My own experience teaches me that the prognosis is much more favorable when the ossicles and drum membrane move freely together under the same traction force than when decided immobility is present.

6. General Health. Just as in other organs, so in case of the ear. A run-down condition of the general health makes the prognosis more unfavorable. Especially is this the case when the patient is of a tubercular diathesis. Pronounced anemia and rheumatism, in my experience, are always unfavorable. The tuning fork tests I have not considered, because in the first place, the results obtained by them are relative and, in the second place, I have only considered those tests which are objective in character. The tuning fork in conjunction with other tests affords us frequently excellent information as to the seat of the pathologic process, but I must say that it has aided me very little in knowing what remedy to apply. Prognosis dependent upon the ability to hear the tick of a watch is exceedingly unreliable, and he who depends upon such will often come to grief. The human voice in different degrees of intensity has, in my experience, proven the most satisfactory test of all in determining the prognosis in any given case.

Passing now from the prognosis, I wish to say a few words in regard to some points in the practical treatment of catarrhal deafness. The modern treatment is based upon the principle that the large majority of such cases owe their origin to some pathologic condition of the nasopharyngeal or nasal cavities. Within certain limitations this proposition is true, and yet the otologist who treats his cases with this all-pervading idea will often be sadly disappointed. Nasal stenosis is one of the most frequent existing factors in catarrhal deafness, and yet marked cases of this condition are found where the ears are never affected. However, there is a close relationship between the two. In catarrhal deafness the nasal passages should always be placed in as healthy condition as possible, but unless there is marked stenosis we need not expect very brilliant results from that treatment alone. Adenoids in children is the most frequent cause of deafness in these young subjects. The removal of such is frequently followed by the most brilliant results and always to the point of benefit. I would always urge the removal of adenoids at the earliest possible age before their evil effects have taken too firm a hold upon the subject. Such growths, in my experience, act not by direct mechanical obstruction of the Eustachian tube but indirectly by pressure, and more especially by fostering a catarrhal condition of all the membranes in their neighborhood. Their presence

causes a constant congestion and hyperplasia of the mucous membrane lining the Eustachian tube, just as a polypoid degeneration of the middle turbinate will cause an enlargement of the inferior through pressure stasis. In adults, and even at all ages, the nasopharyngeal mucous membrane is sensitive and in the majority of cases needs soothing remedies, and the old idea of mopping at random this cavity with strong solutions of nitrate of silver is barbarous in character. Such applications may sometimes be necessary, but should be applied by means of cotton on the end of a wire passed through a catheter. This latter requires some delicacy of touch, but when rightly applied often produces the most happy results. Stenosis of the Eustachian tube, when due to swelling and hypertrophy of the mucous membrane, is best treated by applications direct to the membrane through the catheter, thus medicating the cavity of the middle ear as well. When there are distinct strictures of a fibrous character, whalebone bougies are exceedingly valuable, but exceedingly harmful if the physician does not possess that *tactus cruditus*. Rapid dilatation by means of electrolysis with metallic bougies has not obtained for me those excellent results reported by Duel, of New York. I have tried this method in several cases, but with success no better than that obtained with the ordinary bougies. A precaution should be used of not inflating the ear after the use of the bougies for fear of producing a local emphysema, as once occurred in one of my cases.

I am decidedly of the opinion that the injection of vapors into the middle ear is far inferior to the use of liquid medicaments. Iodine and menthol in liquid albolens have yielded me the best results. Fischerich, of Wiesbaden, has reported a great improvement in deafness from the use of injections of 6 to 8 drops of 2 per cent. solution of pilocarpine. I have also used an injection of liquid paraffin, as recommended by M. Burgher, but have never seen any markedly favorable results therefrom.

Pneumatic massage of the drum when there is a decided retraction of this membrane, with accompanying ankylosis of the ossicles from fibrous adhesions, has been receiving considerable attention during the last few years. In conjunction with other methods it has in some cases decided value, but is by no means a *sine qua non*, as some would have us believe. If Seigel's speculum shows us that only the peripheral portion of the drum membrane moves and the malleus and incus remain fixed we need not expect much benefit from this method of treatment. However, if all the parts move together, daily massage will prove a very valuable adjunct to the other remedies. It is not necessary to have an expensive apparatus, as I have found Seigel's speculum does for me all that could be expected and has the advantage of allowing one to see just how much suction is being exerted. When the malleus is fixed and immobile, instrumental manipulation is the last resort.

To sum up the treatment in a few words I would say:

1. See that the nasal cavities and nasopharynx are placed in as healthy condition as possible by the treatment of all catarrhal states and the removal of all obstructions to free respiration.
2. See that the Eustachian tube and the middle ear are medicated at proper intervals in addition to the inflations.
3. Render the drum and ossicles as pliable as possible by some system of massage.
4. Don't forget the general health of the patient.

Such is the outline of the treatment in catarrhal deafness and the prognosis is always a matter of uncertainty in the best selected cases.

Grand Opera House Building.

DIAGNOSIS AND TREATMENT OF STRICTURE OF THE OESOPHAGUS.

BY DR. G. R. JOHNSON, PHILADELPHIA.

IN the diagnosis of stricture of course we rely almost exclusively on dysphagia. It may be suddenly developed, as in the case of a foreign body, and in the nervous or spasmodic form. In most serious cases this is developed slowly, as in cancer. The patient is first conscious of arrest of food in the oesophagus, which he gradually is unable to overcome by mastication, and washing down with fluid. Then he tries to force it down by muscular efforts and by stroking the sides with the finger. The passage of food is painful, there may even be considerable dyspnoea. Another symptom is regurgitation of food, and the time of regurgitation depends on the site of the obstruction, being naturally sooner the higher it is situated. You can demonstrate by examining the food that it has never reached the stomach by the absence of hydrochloric acid—that is the diagnostic point.

But these means will not answer the question as to whether the stricture is organic or functional. To do this you must pass the sound. The instrument which surgeons usually employ is made of whalebone, with an olive-shaped extremity. The objections to this are: First, it is so rigid that unless the surgeon is experienced there is danger of rupture in introducing it; secondly, it is apt to enter a pouch or diverticulum, and, thirdly, supposing it to have been passed successfully, the solid nature of the instrument prevents the passage of nourishment. So a hollow one has been made. After this is passed nourishment may be introduced while it is in place. Again, food returned through the hollow instrument may be examined.

We know the length of the oesophagus is 25 cm.; the distance from the incisor teeth to the beginning of the oesophagus is 15 cm. Hence it is 40 cm from the teeth to the stomach. The length of the cervical portion of the oesophagus is 5 cm.; of the thoracic, 17; of the abdominal, 3, so we can tell just about where the obstruction is. Of course these calculations are based on measurements of average size. Another means of diagnosis recommended is auscultation, the ear being applied to the left of the vertebral column and the patient being required to swallow some fluid. It is only in the highest grades of stricture that this method is of value. In healthy persons the gurgling after swallow. It is a fact of great scientific interest that an instrument the endoscope, has been invented to explore these cases, but it is so expensive and requires so much skill on the part of both physician and patient that it is not of much practical use. It is very ingenious, very nice for some specialist to exhibit at a society meeting, but of little use otherwise.

The course of the disease may sometimes be suddenly relieved, and this is in reality a bad sign. It is not due to cure, but to sloughing away of cancerous ing is often not heard at all. I think it depends a good deal on whether air is swallowed at the same time. tissue. On the other hand, a stricture which has been giving little or no trouble may suddenly become complete and unless there is surgical assistance death from starvation follows. With reference to the prognosis

much depends on the habits and disposition of the patient. As an example of this, a good many years ago a man was admitted to one of my wards in Blockley with a stricture so tight that not even fluids would pass. My colleague succeeded in gradually dilating it, and the improvement was decided. But no sooner did the man find that fluid would pass through than he obtained permission to leave and returned so drunk that he had to be discharged.

Is there any use in constitutional treatment? There may be, but only when the condition is dependent on syphilitic deposit or syphilitic ulceration, when brilliant results may follow the use of mercurials and iodides. So if there is the slightest suspicion of syphilis the physician may be able to effect a cure. All other means are of a surgical nature and consist in passing a sound. The frequency of the manipulation must depend on the success produced and the tolerance. Sound cases will require it daily and some once a week. Good results may perhaps be obtained by passing a rubber tube and allowing it to stay in place a week or two.

All manipulations must be of the gentlest nature, and if the stricture is not dilatable, gastrostomy is the only resort, and it is the duty of the physician to recommend it before the vital powers are so reduced as to render recovery impossible. In a report of five cases, the patients to whom the operation was suggested, all accepted the proposal but one. He was a Russian general, who no doubt preferred death at St. Petersburg to operation at Berlin!

The most important therapeutic measure in consideration of the subject is regulation of the diet, both before and after the performance of gastrostomy. If strength could be indefinitely maintained by rectal enemata, the disease would be robbed of half its terror. While they are a supplement, sometimes necessarily a substitute, yet life cannot be maintained indefinitely in this way. The question has been made a study by many, and among these perhaps the most prominent is Professor Ewald. He has laid down some rules. First he says that the statement that only egg-albumen is absorbed in the rectum is false. At one time it was thought necessary to use a mixture consisting of finely divided meat mixed up with a certain amount of pig's pancreas and a certain amount of water. It was thought the ideal mixture and was put up in cans for use. But according to Ewald it is unnecessary to peptonize the food. In his mixture, two or three eggs are beaten up with a little cold water, added to a small quantity of starch, boiled in a half cup of a 20-per-cent. solution of grape sugar, and to this is added a little wine—a wineglass full. That is what he used—the "Ewald's egg mixture"—for rectal feeding. The entire amount injected at one time should not exceed eight ounces, and it should be proceeded by an enema of simple water containing a little salt. This mixture can be used for a considerable period without irritating the intestine, if it is sent high into the bowel and slowly injected. It might be easily peptonized if required.

Then, again, suppositories made of finely divided meat used to be employed. There was an establishment where these suppositories were made. They are not much in vogue now, but I believe they are good. They can't, of course, be inserted so high in the intestine, and hence are not so good as enemata.

Unless in the meantime the physician has been successful in dilating the stricture, the operation of gastrostomy will finally have to be performed. Then the question of diet is still uppermost, and cannot be put

aside. In the well-known marvellous case of Alexis St. Martin, studied by Francis Guernsey Smith, whom I know quite well, all kinds of food could be passed into the stomach through the opening. Ewald states that in a case under his observation, bread and butter, meat, potatoes and other vegetables were inserted immediately. But this is certainly not a physiological proceeding, for it excludes the action of the saliva. Saliva does not only digest starch but it seems to have a good deal to do with the digestion of albumen—that is, not directly, but if saliva is excluded from the stomach of an animal the food will remain undigested; and saliva seems to act by calling forth the action of the gastric juice. It is a peptogenic substance. Soup is a good peptogenic substance, although it doesn't digest food itself. The same is true of dextrin and other substances. This proves that the best mode of nourishment is that in which saliva calls forth the action of the gastric juice. The food should be thoroughly masticated by the patient and then ejected into a tube communicating with the stomach. It is not sufficient to exclude all starchy materials from the diet.

There is one objection to this method, and that is that a certain amount of food will be swallowed. This will decompose at the stricture, and give rise to dangerous symptoms. The patient will swallow other things; during the night he will swallow a large amount of mucus and saliva. So that in all these cases we must attend to the "toilet of the oesophagus." The dilatation above the stricture constitutes a species of incubator, and a fetor of the breath and frequent regurgitation of the fluid will follow. The oesophagus should be washed out every day with solutions of borax or boric acid, thymol, resorcin and so on, or small quantities of these drugs may be swallowed occasionally for the purpose of disinfection of the oesophagus. Ewald has suggested the use of small quantities of brandy every day. You see that the physician who has on hand a case of stricture of the oesophagus will have plenty to do.

CHLOROFORM.

BY J. HUBLEY SCHALL, M.D., BROOKLYN, N. Y.,
Late House Surgeon of the Emergency Hospital, etc.

AS I write I keep in mind the dread the American surgeon has to chloroform as an anæsthetic. Inexperienced chloroformists, however, may dispute over the question from their own standpoint. My object is to draw attention to the fact that chloroform if properly administered is as free from risk as any other general anæsthetic, as is shown by the history of its administration in the largest and best known hospitals of Europe.

In Germany there is a curious distrust of ether as an anæsthetic, more so than the fear of chloroform narcosis which seems to prevail in this country.

In America we frequently have pointed out to us the marked difference between the deaths under ether and those under chloroform. I think the preference given to ether is mainly due to prejudice. Then, too, a death occurring after the administration of ether is seldom attributed to the anæsthetic, but to shock resulting from the severity of the operation and not the effects of the ether.

We seldom hear of the deaths that occur weeks or months later due to ether irritation of the lungs or kidneys in individuals already afflicted with lesions of these organs.

In the fatalities under chloroform it is very different. It is a well known fact that death takes place at once, as the direct result of the action of the drug.

At the Czerney Clinic in Heidelberg I noticed that chloroform was administered by students with perfect safety, solely because it is given with the greatest care, especially as to its free dilution with air.

Dr. Dehner, of the Julius Hospital in Wurzburg, Bavaria, informed me that chloroform (Picket) has been administered in his clinic over 15,000 times within the past five years without a single death.

Von Nussbaum saw chloroform used 40,000 times without a death.

In the Edinburgh Hospital chloroform has been exhibited 36,000 times with but one fatal result.

Chisolm's, of Baltimore, experience with chloroform narcosis is worthy of respect. By his late report over ten thousand cases have been chloroformed without a fatality.

When chloroform is given continuously with a free dilution of air, and the respirations not interfered with, the patient continues to breathe quietly without struggling or involuntarily holding the breath, neither will he experience the slightest distress. On the contrary, the sensation is exceedingly soothing and agreeable as long as consciousness lasts.

Frequently I have seen the cone clapped over the nose and the mouth in a way that makes me dread its administration. In every instance the patients struggle for breath, and if able will tell you they experience a sensation of burning and choking that feels as if pure alcohol was being poured down their throat. In a few moments unconsciousness comes to their relief—sometimes collapse. I am certain that death frequently ensues at this stage of the administration.

I know of two recent cases in which death occurred after the patient had taken ten or twelve full inhalations of the concentrated chloroform vapor.

It is positively true that greater skill is required in administering chloroform safely than any other general anæsthetic.

Of all anæsthetics, chloroform should never be "pushed." It should be given gradually, preferably by the "drop by drop" method.

Where the writer to take an anæsthetic himself, he would choose oxygenated chloroform, if subjected to an "emergency" anæsthetist.

As chloroform is administered so frequently in direct opposition to the principles laid down by the Hyderabad Commission, it is surprising to me that deaths under chloroform have not been more frequent.

I have made personal inquiries of the Chiefs of the Surgical Clinics in the principal hospitals of Heidelberg, Baden Baden, Wurzburg, Vienna and Paris, and find that ether is almost entirely discarded as a general anæsthetic.

My attitude in the consideration of chloroform as an admirable anæsthetic when indicated in the result, not of theoretical deductions or the opinions of those who have only administered it a dozen times, but of that best of teachers—experience.

—According to Livings (*Railway Surgeon*), benign tumors that are not complicated with inflammation or infection do not produce fever. Malignant tumors that are growing rapidly, irrespective of inflammation or infection, are usually attended with fever, the temperature often ranging from 100 to 102 degrees Fahrenheit.

GALL STONES FOLLOWED BY SPONTANEOUS RUPTURE OF THE GALL BLADDER: OPERATION: RECOVERY.*

BY AP MORGAN VANCE, M.D., LOUISVILLE, KY.

I RECENTLY saw a married lady who gave the history of having had pain and discomfort about the gall bladder region for several months. She had been under the care of Dr. W. O. Roberts, and had given birth to twins six weeks before I saw her for the first time. Dr. Roberts being out of the city, and the woman having a high fever, considerable pain, etc., the family decided to call another physician, and I was consulted.

On examination I found a tender tumor just below the region of the gall bladder. The patient was taken to the Norton Infirmary, and an incision was made over the most prominent part of the tumor, coming immediately down upon the liver. Her temperature was very high, pulse weak, abdomen exceedingly tender. In working around the lower border of the liver to determine just what condition existed, quite a quantity of pus was evacuated, and along with it a number of gall stones. I removed in all twenty-three calculi, not being able to define positively the gall bladder.

I think it was a case of spontaneous rupture of the gall bladder, with the formation of an abscess, the gall stones being discharged into this abscess sac. In proof of this there was never any bile discharged. I kept a drainage tube in situ for six days, then took it out and the wound healed at once.

A week ago there appeared a tumor, about the size of a hen's egg, near the site of the original wound, and a spontaneous opening has occurred. I have not seen the patient since, but Dr. Morris, the family physician, told me that an opening had taken place. Since this spontaneous opening, the patient has continued to improve and now feels perfectly well.

I believe this is a case where nature has attempted to cure the condition by a spontaneous rupture of the gall bladder. I could not define the gall bladder at all, but stitched the sac of the abscess as well as I could to the parietal peritoneum, in this way keeping the discharge out of the cavity. I do not believe it was the gall bladder, however.

She nursed her babies up to the time of the operation, and only lost one nursing because of the surgical interference.

REMARKS.

Dr. W. O. Roberts:

I saw the case referred to by Dr. Vance while she was pregnant, and took it to be one of appendicitis on account of the location of the pain, tenderness, resistance of the abdominal muscles, constipation, etc. I saw the patient in consultation with Dr. Heuser. We had her removed to the infirmary expecting to operate upon her; the next morning she was much better, the fever had disappeared, tenderness not nearly so marked, pulse normal, and we concluded to defer the operation, chiefly because of the fact that she was pregnant. She went along and had no further trouble.

The next time I saw her was after her confinement, when the babies were a few weeks old. She was then seen in consultation with Dr. Morris; at that time she had what I took to be a very tightly distended gall bladder. I was certain that I could make out an enlarged and greatly distended gall bladder; tenderness was marked, and I wanted to operate upon her at once;

*Reported to the Louisville Medico-Chirurgical Society.

however, she wanted to wait until her husband came home, which would be the following day, and after consultation with him they decided to put it off a while longer. Meantime I went to Chicago, and while I was away the family physician prevailed upon her to have an operation performed, and Dr. Vance told me when I returned that he had operated upon her, and that what he had previously taken to be the gall bladder was the lobe of the liver. It felt to me exactly like the gall bladder.

TREATMENT OF GASTRO-ENTERIC INFECTION OF CHILDREN.

REPORTED BY M. E. FITCH, M.D., PHILADELPHIA.

THIS child has an active erythema over the scrotum and buttocks, a region that is common for this condition. It may be erysipelatous. It is not an idiopathic condition. The rectal temperature is 105° 2-50, not pointing to any disease. The stools are normal. What is the cause of this?

In an erythema over this portion we must suspect one of the following causes: Lack of carefulness on the part of the caretaker, or the use of irritating and impure soaps, probably perfumed and cheap soaps, which are impure; water may be the cause, and at the present time we may suspect anything from this source. It may be due to overheating of this part of the body, especially when the caretaker resorts, for some cause or other, to the use of the rubber diaper—the nastiest form of poultice that could be used. It should never be used. All of these causes can produce an irritative erythema. Then there are bacteria; but this is not a phlegmonous condition. In the absence of a culture we are unable positively to say whether erysipelas is the cause. Can so young a child as this have erysipelas? Certainly it can. What would be the cause of the disease? If it is very mild, the erythema may soon subside, and we will have recovery. If it is not very mild, this may wander over the surface of the body and the child become acutely ill.

In the absence of fever, of a phlegmonous condition with blebs, in the absence of any contagious disorders near their house, the chances are in favor of its being a simple erythema. But if, however, the temperature rises this evening and the blush deepens, it is in favor of erythema. We need a culture in order to make a positive diagnosis.

This is the child that we brought into the hospital for a herniotomy. Following the free purgation, which was a preparation for the operation, rales were discovered. I told you this was not an infective condition, but asthmatic; that it would probably gradually disappear without a rise of temperature. It is an irritative condition of the gastro-intestinal tract, and if the obstruction in the tract is removed the child recovers. The child has had a bronchial asthma, which is gradually passing away.

It is only fair to say that it has been given a mixture of ammonium chloride and ipecac, which undoubtedly aided in clearing up the chest; but we still maintain our point, that it is not a capillary bronchitis. The sound is a prolonged wheeze—an asthmatic one. If you have ever heard an asthmatic person trying to breathe, you will recognize the likeness to the squeak in this chest.

The surgeons are right in postponing the operation. An inflammation would be added to this under the

effect of ether. If he were to be anesthetized, a combination of oxygen and chloroform should be used. This is a valuable preparation. When chloroform itself is taken under a skillful anesthetizer, it is very successful for he will allow air to mix with the chloroform.

Going on with our discussion of the development of the child, we will take up the second nutritive period. What inaugurates this condition? The coming of the teeth, the first lower incisors usually appearing at the seventh month. This is accompanied by more or less increase in the amount of saliva, telling us there is a new factor in the digestion, and the child is ready to increase its diet. It is not the number of months old that the child is, not the weight of the child, but the fact that it has arrived at this period of physical development.

Up to this period the child has been fed on fats, proteids and sugar. When this condition has arrived, to the child's food may be added some form of starch, because, as we know, saliva has the faculty of changing starch into sugar. At the same time various juices and pulp of the proper fruits should be given. Proteids, fats, sugar, a certain percentage of starch and sufficient fruit to keep its bowels free.

What forms of starch have we to use? First, that from oats and oatmeal, and second, that from barley grain. Occasionally we may use the wheat derivatives; but ordinarily oatmeal water and barley water, or oatmeal or barley jelly. This may be added to the milk. The grain must be thoroughly boiled, the husks eliminated by straining, and the food may be sweetened with sugar of milk. Once or twice some of the pulp of apple or orange or a little prune juice. The child may often pass at this stage from the use of the bottle. Cup feeding with a spoon is a nice way. Bread and milk is often good; yet I must warn you not to introduce a considerable quantity of bread into the child's stomach. The percentage of starch is greater and the fermentation is not always completed.

What is the fair and intelligent view in regard to the child's dentition as a cause of trouble? The facts are that the coming of the teeth is incidental to the period of development, and the time when the tooth makes its greatest pressure is long before it is seen. If you would make a cut to relieve the pressure, you would have to cut into the jaw bone. There are cases where the periosteum or the mucous membrane are abnormally resistant, and in such cases it is sensible to make a nick and set it free. But never cut deeply unless it is evident that the tooth is immediately beneath. If you will look out for the physical condition of the child, the tooth will come almost unheralded and unnoticed. In a well-fed child probably no one knows the exact date at which the teeth arrived.

Then, as the child grows and more teeth come, there will come a time when it demands an enlargement of diet. Then what shall we give it on which to try the coming teeth? Often the child is given a chicken bone and allowed to suck off the fat and marrow; a chop bone is used for the same purpose. There are forms of cracker made from wheat which a child can gnaw off and not get much. Gradually soft egg can be given, or bread or crusts in milk. Allow the child to bite on a bone. Gradually vegetable matter is added, and soups and the white meat of chicken, passing simply from the infant's food to that of an adult. As to the kinds of meat—mutton, lamb, chicken and a little bacon are the best. The chief mistake is in giv-

ing large quantities of starch, especially in potatoes. Potato is a dangerous form of starch. The prescription of the doctor may be to give "a baked potato," and the child may be given a very large one and filled up with the starch. You can give rice that has been cooked well—cooked so that it is absolutely soft, yet each grain separate; potato sparingly and in a certain amount—not a whole baked potato simply because it is "one baked potato."

Taking up gastro-enteric diseases in children, what are the causes? First, infection. Clean food means little intestinal disease; infected food means disease. Then, we must ascribe some of the trouble to improper feeding—that is, bad feeding of good food as well as good feeding of bad food. In the third place, I must remind you again that interference with the nervous stimuli will cause disease, though we have proper feeding and sterile food.

The first symptom of disease will be vomiting, rejection of food. Regurgitation is simply the confession of weakness. The stomach is overfilled, and the food comes back. This is not vomiting. Then purging may vary from a slight degree to a violent dysentery, mucous passages streaked with blood. Very soon there is fever, 101½ degrees or 104 to 105 degrees, depending on the course of the disease. The child loses blood serum, loses its food and is reduced to a condition of prostration, with sighing respiration. As soon as it has passed the first few hours, there is greenish mucus, blood stained, in the stools; then rice water stools, stools containing muco-pus and altered coloring matter of the blood, and in the last stages there is nothing but a small amount of serum or mucus.

The treatment, of course, consists in avoiding infected food; hence, all that can be done for securing pure foods and absolute cleanliness of the utensils may suggest themselves to you as preventatives. You must immediately empty the bowels. The child's intestine is such a diverticulum that although it may vomit and purge, the bacteria will remain, and you have a condition of irritative bowel and inactive liver. How shall we empty the bowels? There is absolutely no new drug to suggest. There is still castor oil, for which it will not cry, and Castoria, for which it will cry, and cascara. All you have to do to make a fortune is to invent some new preparation of these things and advertise it widely. Most men give, under these circumstances, doses of calomel with sugar. Why is this good? Because it causes a flow of bile, and, another thing, it tends either to check the vomiting or make it worse. It remains a good thing and should be used.

If the trouble is not an infection, but simply a plethoric condition, there is no objection to oil—castor oil or sweet oil. If griping is present, five drams of brandy with a teaspoonful of castor oil is a comforting dose. In giving calomel, you can give it either every hour or every half hour till there is a yellow stool, and it can be given in pill form. I have yet to see any salivation resulting from this treatment.

When we have emptied the bowel, what shall we give the child? The relatives all want to give it milk. We do not want to block up the intestine with milk. We can give white of egg beaten up in cool water and sweetened with sugar of milk. The child can take two to four teaspoons of this with its calomel powder. Later sterile albuminized food, as broths, can be given in small doses with the white of egg water, until the acute infection has passed. Sterile water should be

given ad libitum. You have by these simple methods the means of cutting short the infection.

There may be signs showing infection of the deeper layer of the intestinal wall. Lavage then comes into play; it is far superior to any drug. The right way of preparing for this is to use one gallon of warm sterile water, if much mucus is present, adding one-half teaspoonful bicarbonate of sodium to the pint. The temperature should be from 100° to 110°, and it should be boiled. The child may be lying across the nurse's lap on its abdomen. The bag of the fountain syringe should be about three feet above the level of the child. Attached to the syringe is a rubber catheter, and this catheter is introduced gradually as far as it will go, and the fluid is allowed to run. Then, after a little comes the back flow. If the thing is skillfully done, the child may even sleep during the performance. When the water comes back perfectly clear for some moments the catheter is withdrawn. About four to eight ounces may be left in the intestines. The improper way of doing this is to attempt to inject a small quantity of fluid, using some piston arrangement, like the Davidson syringe. The proper way is very efficient. You had better do it yourself the first time for the moral effect on the mother.

In prolonged cases of infection never use bichloride nor carbolic acid, but you may use the normal salt solution or boracic acid. On rare occasions, with dysentery, iced fluid may be used with lysol or thymol. What fluids? Boiled water, salt solution, boracic acid, but not creolin nor bichloride. In dysentery, with bloody stools and high temperature, lavage with a cool fluid, one-half per cent. of thymol or lysol may be used. This is strikingly successful when well done. Then if the disease assumes a chronic character, we must add some stimulus for the child. Brandy is best, well diluted, given every two to four or three to five hours, alternately with something like white of egg water.

For fever, abstain from all antipyretic drugs. Occasionally when depressed, you may add to the brandy a little paregoric, but only after you have emptied her bowel, for it prevents the bowel from emptying itself. You may use, in high temperatures, cold applications to the abdomen. Next to the skin a piece of flannel is placed and over that the cold.

What about the chronic type of inflammation where we have nasty stools and the belly drawn in? The prognosis is unfavorable on account of the diminution of strength. Clean the bowels we must, and I would urge on you the importance of lavage of the stomach and intestines. Inunctions of olive oil to the skin—you may combine a little chloroform with the oil. You may use one pint of alcohol to two pints of olive oil. Every resource of good nursing must be employed for a chronic infection of the intestines. In trying to form a good mucous membrane, Fowler's solution is used; sometimes beechwood creosote. With good care and the best nursing, the child may come up. You must always remember the possibility of tubercle infection if it goes into the chronic stage.

As regards the discharges, sepsis is indicated. In hospital treatment a while ago a marked improvement was noticed when attention was given to this, and diapers were removed immediately and boiled. All instruments and the hands of the nurses, etc., should be sterile.

At the present time the old-fashioned cholera infantum is not seen in our city hospitals. Many of

these cases of intestinal infection die cured. We may carry a child through the attack and the child may perish through inanition and failure of strength. And here comes in the advantages of the rich for a change of air and the benefit of all that has been done to take the poor to the shore or to high ground.

THE NEWER TREATMENT.

REPORTED FROM VARIOUS CLINICS.

Treatment of Syphilis of Nervous System—Remember that last week I discussed with you syphilis of the nervous system, without saying very much about the treatment. This morning we have three or four cases that I wish to show you, and at least two of these are probably cases of nervous syphilis.

I do not know anything about this patient except what I learned in four or five minutes before coming into the room; but that is about all you will know of most cases on your first visit, and your success largely depends on your skill or shrewdness in conducting yourself on the first visit. She is a woman about twenty-eight years old, a Russian. She does not speak the language well, she seems to speak some German. The history such as we have seems to be that she had eight or ten years ago a convulsion of some sort. Then one week ago she had a serious fit. Now, not only did she have the convulsion, but there was evidently an epileptic status, with one convulsion after another until she had perhaps a dozen or more. She was bled, and whether because the convulsions had worn themselves out or the bleeding had exhausted her, they ceased. Since then she has had occasional smaller attacks, slight daily attacks. There is one other thing to be noticed; that is in the attack her face was pulled to one side—to the right side. Since the attack she has been not unconscious, but in a state of almost speechlessness and in a condition which indicates profound mental feebleness. She looks more or less demented. It may be the fact that she has not control over her language gives her an appearance of dementia which she does not entirely deserve.

[A Russian student is called down to question her.]

She is not totally aphasic, as we might have judged. We have brought out of her a rather large amount of language. Nevertheless, she is in a condition of more or less apathy or dementia, and this has probably followed upon the serious cerebral attack. There are more symptoms showing her mental condition. She does not control her evacuations, and there are also indications of dementia in the filthy way in which she has attended to herself. In the absence of any history we can only surmise as to the cause of her condition. It is possible that it is ordinary grey epilepsy; she may have had other attacks which have been overlooked. It may be encephalic syphilis of some sort. Some things in the history seem to point in that direction. In the first place, she had the convulsions. To say that she had a syphilitic epilepsy may be making an unjust allegation.

You remember I spoke last week about the diseases with true syphilitic lesions and the para-syphilitic diseases. In the first you have inflammation and tissue formation, the direct result of syphilis. Now you have a pseudo-syphilitic-epilepsy which is due to a gumma attacking the brain membranes, or due to a local or diffuse gummatous meningitis; or you may have a combination of the gummatous meningitis with an infiltration of the cortex. In this pseudo-syphilitic-epilepsy the convulsion is due to a tangible syphilitic lesion. But

there is another form of syphilitic epilepsy, a para-syphilitic epilepsy. Here the constitutional condition produced by the specific toxins leads to a secondary condition of degeneration and instability of the nervous system, and you have a disease like *tabes dorsalis* or general paralysis of the insane. If we have this para-syphilitic epilepsy with degeneration of the cortical neurons, it is as incurable as *tabes* or general paralysis of the insane, and all we can do is to hold it in abeyance. But if we have a pseudo-syphilitic-epilepsy and administer specific medication in the proper way we can melt the products of the disease and help her out of her state of temporary dementia.

As that is our only chance perhaps, I would suggest that she be put on anti-syphilitic medication, omitting much use of bromides on account of her demented condition, if possible. The treatment ought to be active, it ought to be mercurial inunction, with iodide of lithium or sodium or potassium, or comparatively large doses of bromides. When the true lesion is present you should treat it somewhat actively and you will get brilliant results. Mercurial inunction is like this. Treat your patient in bed. I think you cannot get such good results from treating your patient and then letting him travel around. So put the patient to bed if possible. Take the mercurial ointment and subdivide it into dram doses, ordering each dram to be wrapped up in waxed paper or paraffin paper. Then order one dram at a time to be rubbed in some part, perhaps beginning with the legs first, then the thighs, and then arms. If a rapid effect is desired one or two, or even more, drams can be used at once. We have even put a mercurial poultice on a patient's abdomen at Blockley. A good reason for not applying more than one or two drams at a time is that you cannot well get more than this on and in.

Coincident with this you can if you choose begin the iodide treatment; you can begin with small doses, 10 gr. of sodium iodide or potassium or lithium iodide, and increase rapidly. You may use what is called the American method, that is getting up to 50 or 60 or even 100 gr. three times a day. My own opinion is opposed to these enormous doses; they occasionally do harm. If I were to speak dogmatically I should say that 30 or 50 grains of potassium or lithium iodide three times a day is better than the larger doses. Experience seems to teach me that the best results come from this rather than from the smaller doses of the English or from the excessively large doses given by some in this country. If she does not respond to this treatment we would have to wait and perhaps resort afterwards to the use of the bromides.

Then in addition she should have in moderate doses something in the line of hemaboloids, or albuminate of iron, or peptomangan.

Case II.—Here is another patient who is possibly in the same condition. She is a Russian; she talks a little German. One year and a half ago she had without any previous history of the sort, a sudden attack of paralysis of the right arm and leg. I believe she has never had an attack since. She partly recovered the use of her hand, and then it came on again. If she could talk freely we could arrive at a better conclusion. This may be from two or three causes. There is on the whole more evidence against cerebral syphilis than for it. There is no past history of headache or anything pointing to a specific lesion for the paralysis. I have seen in persons of her race a number of cases of grave hysteria

with paralytic manifestations. Probably her paralysis is of functional origin—a hystero neurasthenia. We must be very careful about putting a person on syphilitic medication without some foundation. I have just been given one thing in favor of syphilis. It is said that an examination of her throat shows some condition pointing to syphilis. While it is not proper to salivate a patient with anti-syphilitic remedies on no foundation for the treatment, yet I think it is right to try the treatment with these indications, especially when we have these throat manifestations.

Here we will use, not the mercurial inunction, but about 20 gr. of sodium iodide in some bitter infusion. This will be raised quickly to 30 or 40 gr. After taking this for a week or two we will add a tonic. In the meantime we will have electricity or massage applied to the arm.

Case III.—This patient is forty-six years old. She is a German. She says that she has been washing for twenty-four years continually, for about four days in the week. She has a washing machine, but sometimes uses a board. Her hands are in the hot and cold water four or five hours a day.

Now, here is a case where the history points directly to the cause of the symptoms. She has been affected in both hands with aching and numbness; it is worse in the right hand, which is used more. It comes on at night and gets better while in the act of washing. She is probably suffering conjointly from two things brought on by her occupation, a fatigue neurosis, and also a sensory disorder which sometimes comes from putting the hands frequently in hot and cold water. It has been described as the "anæsthesia" or "paræsthesia of laundresses." I have not infrequently seen this. The pathology is probably complex, just as the two elements entering into the diagnosis. There is very likely absolute fatigue and exhaustion of the nerve apparatus—a local neurasthenic condition you might call it, and a tendency to a recurring congestive condition.

She would get well if she could stop working for one or two or three months and have a long rest. This could be assisted by weak galvanic currents and massage, and some anti-neuritic, as sodium salicylate or salicylate of cinchonidia. We can give her 1-40 gr. of strychnine three or four times a day and one or two grains of cinchonidia salicylate.

Rheumatic Pleurisy: Counterirritation in Pleurisy.—Here is a patient whom I would have shown you last week had I been here myself. She is thirty-seven years of age, a widow, and was admitted March 13. She has had several children. At eleven years of age she had typhoid fever, and last July she had an attack of the same illness from which she is suffering now; that is, pleurisy. Three weeks ago she was taken with a cold, a neuralgic pain in the head and face; she coughed a great deal, a dry cough. A pain in her chest developed which became sharp and cutting and was chiefly limited to the right side. There was suppression of thoracic movements, and from the signs of pleurisy we naturally suspected the symptoms of effusion; but it has been a dry pleurisy from beginning to end. There was a slight degree of albuminuria; there was considerable fever, the temperature having risen to 140° once, on the 14th. Since then it has been descending gradually and the pulse has come down from 130 to 84.

The point of interest to me in this case is the fact that coincident with these pleuritic signs she has had the signs of rheumatism. And even now she has considerable pain in her hip-joints and her knees. I do not think

the writers of our text-books lay as much stress as they should on rheumatic pleurisy and the fact that the cases of pleurisy which are most amenable to treatment are rheumatic cases. The anti-rheumatic remedies—sodium salicylate, oil of wintergreen and salicin—produce the same benefit in rheumatic pleurisy as these drugs do in the treatment of rheumatic arthritis.

There is no effusion here. There is some dullness and it would indicate a pretty copious deposit on the pleural layers—it does not take a great deal of deposit to give rise to the amount of dullness we now have. The resistance to my fingers is quite appreciable, much greater on the right side than on the left.

These cases should be treated with the strontium salt, or sodium salicylate, or some other salt of salicylic acid, or salicin. What about the use of counter-irritation for pleurisy? This woman has had turpentine applications to the chest, and this is an excellent thing. But what about blisters? Blisters are not much used now. I think it a mistake to forego the benefit to be derived from them, which is great. Before aspiration came into use blisters were much used both in dry and moist pleurisy. Some authorities contend that there is no use in application of counter-irritation by blisters over a diseased part unless it is in vascular connection with the integument you intend to irritate. And they compare it to the practice in some Eastern courts, where the royal children were not punished for their misdeeds, but some boy, a "scape-goat," received the punishment. Such a criticism is very easily answered by saying that if the punishment on the "scape-goat" did the children any good it was all right! For my part I think the blister is beneficial. When you irritate the skin the vessels of the part dilate, the vessels of the rest of the body contract and the blood is forced into the part irritated.

A book on Blisters has been written by a surgeon named Jordan, who tried to lay down rules for the application of blisters. He advocated this same rule, and advised in cases of pleurisy to apply blisters to the arms so as to dilate the brachial arteries; and when the abdomen was inflamed to apply blisters to the thigh, and when the thigh was inflamed to blister the abdomen on account of the collateral circulation. This is absurd.

The inference that this pleurisy is rheumatic is not dependent on any underlying inflammation of the lung. Very many cases of pleurisy are exceedingly latent, and I have no doubt many of the people here have had pleurisy without knowing it. It is an exception at an autopsy to find the pleural sacs free from adhesions.

Electrical Treatment of Hemorrhoids.—Two cases of hemorrhoids, treated by galvanism, are reported by John V. Shoemaker in the *Medical Bulletin* for March (*Charlotte Med. Jour.*).

He used the negative pole of the galvanic battery, as it increases the diameter of the blood-vessels as well as of the rectum with general good results.

He considers it the best treatment for the recession of a protruding, necessarily somewhat strangulated, hemorrhoidal mass.

Methylene-Blue Treatment of Gonorrhea.—Methylene-Blue administered internally will cure gonorrhea in from four to seven days, according to Joseph Alan O'Neill (*Med. Rec.*, March 24, 1900). To the diplococcus, which is the specific cause of this disease, it is especially fatal. The pyogenic bacteria that make gonorrhea a mixed infection succumb very promptly to this germicide.

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EGBERT GUERNSEY, M.D., LL.D. ALFRED KIMBALL HILLS, M.D.

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INFLATED WRITING.

HOW many dictionaries did your young friend have before him when he wrote that article, said an old lady to whom we had pointed in a medical journal an article which we thought would interest her. The article was an excellent one, but so full of technical terms and big words as to be almost unintelligible to one not fully up in purely scientific phrases. This is a fault especially with young writers, but a habit which sometimes clings to them through life and impairs much of their usefulness with the general reader. Herbert Spencer, for instance, wide and richly deserved as is his popularity, would have reached a far greater number of minds if his language had been more simple and easily understood by the intelligent general reader. In his great work, *Synthetical Philosophy*, he says that "Evolution is an investigation of matter and comitant dissipation of motion, during which the matter passes from an indefinite incoherent homogeneity to a definite coherent heterogeneity, and during which the retained motion undergoes a parallel transformation." To the thoroughly trained scientific metaphysical mind this might be perfectly intelligible, but to the majority, even of intelligent readers, it would seem so like an unknown language as to cause them to put the book aside. Evolution simply means that the infinite and eternal life is moving in an orderly unfolding of itself through the organic ascent of life. This, in plain English, is Herbert Spencer's meaning of evolution. Probably Prof. Hyatt in his article on the nautilus had a distinct idea of the meaning he intended to convey when he said "that the leading characteristic of parallelism in all genetic series of nautiloids is a tending towards closer coiling and greater involution in the more specialized forms of each separate and a correlative increase in the profundity of

the impressed zone," but to the majority of our cultured readers he wrote in an unknown language. Herbert Spencer, Prof. Hyatt and other profound scientists who are so apt in their writings to think that simple language is not grand enough to express the phenomena of science, if they wished on a stormy day to say it rained would be likely to formulate it in some such words as these: "A condensation of aqueous substance has taken place in the circumambient atmosphere and precipitated itself upon the planet." Campbell in his "Ferns and Mosses" conveys the fact that ferns and mosses live for a time as parasites on the several organisms that produce them, tells the story in the following clear and simple manner: "The young sporophyte of the peridophyte, like that of the oryctophyte, lives for a time parasitically on the gametophyte." There is no class of men more fond of using technical terms couched in high sounding phrases than a certain class of medical men, oftentimes creating a laugh when on the witness stand in court or in the popular articles for the public press. Prof. Cope in his *Primary Factors of Organic Evolution* tells his readers that "in the first case, that of the human elbow, the cubitus was luxated posteriorly, so that the human condyles articulate with the ulna, anterior to the coronoid process," and this book was written not alone for the skilled anatomist, but for the general reader. A physician in a review for publication of a popular novel expressed his opinion of its moral tone "as a pæan pubescent; the study of a peccant pair and immured study of stercoraceous souls." Clear as the author's mind.

Speaking of cancer, a distinguished author in an article for a public journal says: "Carcinoma arises from any subepithelial proliferation by which epithelial cells are isolated and made to grow abnormally." A professor of mental diseases says of insanity: "The prodromic delirium is a quasi-paranoic psychosis in a degenerate subject." A professor of theory and practice conveys the fact to his class that microbes produce the poison erysipelas in this exceedingly lucid manner: "The strophococcus erysipicatus proliferation in the interspaces of the connective tissue is the etiologic factor in the secretion of the erysipelatos toxins." A learned surgeon in making a post mortem examination, as the knife disclosed the nature of the disease, said: "This is a colossal carcinomatous degeneration of the hepatic mechanism." It is needless to quote further from the abundant illustrations of what seems to us a lack of good taste in expression and thoroughly bad writing. The best writers, even upon scientific subjects, are noted for simplicity of style and clearness and conciseness of expression. A celebrated clergyman whose sermons were models of well expressed English in their clearness of expression and the almost perfect logic of ideas, every word filling its appropriate place, in reply to our expressed admiration laughingly said, that perfection of style you are pleased to admire was only reached in long practice after a sharp

and sarcastic rebuke. In the last year of my college life I was called upon to deliver an address before one of the societies. This address was first to be read to the president. I had prepared myself with great care, and after reading several pages the president said: "What idea do you intend to convey?" So and so, was my reply. "Why do you not say so?" queried the president, and so on to the end of the address. Every few pages came the inquiry, "What idea do you intend to convey there, and why do you not say so?" and so my address, which was intended to occupy thirty minutes, was cut down to about twenty. That lesson was never forgotten. The resources of the English language are quite sufficient to enable the writer to clothe even the details of scientific facts in language so clear, so poetic, if you please, as to give them that nameless charm which can never be forgotten and which impresses them indelibly on the mind.

THE FAMINE IN INDIA.

FOR the week ending July 7 there were 9,928 cases of cholera in the famine district, of which 6,474 were fatal. In the native states there were 9,526 cases, of which 5,892 were fatal. Speaking of the result of his observations and inquiries, Dr. Klopsch, who has just returned from two trips into the famine district, going first five hundred miles into the interior from Bombay, and then an equal distance north, covering more than two thousand miles, says:

"One-half of India to-day is a great charnel house, in which countless thousands have already perished of cholera, plague, dysentery and starvation, and as many more are doomed to a like fate. Twenty thousand new cases of cholera weekly, with seventy-five per cent. mortality, representing fifteen thousand deaths every seven days; plague on every hand, dysentery mowing down its victims right and left, and starvation staring millions in the face, reaping a harvest unprecedented, sums up the horrible story."

Dr. Klopsch said that from the first of the year 300,000 famine victims have died, a number equal to our losses in the civil war, and that the average daily death roll in India is 10,000, while the famine stricken area includes 50,000,000 inhabitants. A prominent English writer, who has lived many years in India and studied the question with great care, in fact giving chapter and verse for all his statements in what he claims to be well established facts, attributes the cause of this famine, more terrible than anything of the kind in the history of the world to the great poverty arising from the taxation of English rulers and the removal of the money from the country. The ruins of thousands of reservoirs, in which formerly the water was stored for irrigation, he says, are scattered all over the land, neglected by the government, and the people unable to keep them in repair from the weight of taxation—the removal of the money from the country, a lack of remuneration for labor and a destitution which has no equal in the world.

In the cause given for the famine and the terrible death rate we simply quote the statement of a prominent English writer, confirmed by influential men of his own people, who speaks from personal observation of the actual condition.

The recent news from India that an abundant fall of rain is opening a brighter prospect to the desolate country and its famine stricken people will be received everywhere with a feeling of relief. Will it not be possible for the home government to take such steps as will prevent in a measure a repetition of a similar disaster?

A NEW REMEDY FOR CANCER AND TUBERCULOSIS.

A RECENT issue of the New York *Herald* copies from its European edition a statement, endorsed by several prominent Belgian physicians, that a new and very valuable remedy for cancer and tuberculosis has been found in the kalagua, a South American plant. Anything that relates to the cure or relief of these terrible diseases, which have thus far to a great extent baffled the resources of medical science, would naturally excite profound interest in the profession, but it has so often been deceived that it has learned to scrutinize with great care any so-called new discovery.

Dr. Augustus Le Plongeon, the noted Central and South American explorer, and recognized as one of the leading scientists of the world, for several years professor of materia medica and therapeutics in the University of Peru, and the head of the only private hospital in Lima, whose knowledge of the flora of South America is exceeded by none, writes to us. "Replying to your question as to whether I know anything about the calaguala—wrongly spelled in the *Herald* 'kalagua'—I have never used it in my practice. It is used principally by the natives of Peru and Bolivia as a sudorific. I have no knowledge of its action in cancer or tuberculosis.

"It is a perennial, belonging to the genus *Polypodium*. (*Polypodium calaguala*). Its leaves, which have the shape of a lance blade, are about one foot long, smooth, and of a dark green color. The root, which I understand is the part used, is rampant, hard, of a dark gray color.

"The Peruvian carnata Indians brought it for sale to Lima, with many other medicinal plants. These people roam long distances over the South American continent gathering medicinal plants, which they sell in the cities of Peru, Bolivia, Argentina. They are expert botanists. They have followed their profession for centuries, passing their knowledge from fathers to sons. They keep it sacredly as a precious heirloom. Of course, the majority of practicing physicians disdain to take notice of the science of these nomadic brothers, or to use their remedies. They have not followed the courses of medical schools nor passed examinations before boards of learned examiners. The experience of centuries counts as nothing for them. I remember several of these physicians once applied to the Peruvian congress to pass a

law to stop these Indians from selling their herbs.

"Unhappily for the applicants, many of the congressmen, their families, and their fathers before them had faith in the native botanists and their remedies. No notice was taken of the application of the doctors and the carnatas were not molested in their trade.

"For my part I confess to having learned much from the native botanists of Peru and Bolivia regarding the use of many plants, unknown in our materia medica. Many of them, however, mentioned by my friend, the late Professor Antonio Raymundi, in his most valuable and learned work on the Peruvian flora."

SEASICKNESS.

IN a recent issue of the *TIMES* we referred to the experiments of Dr. Perdriolat, physician to the General Transatlantic Steamship Company, under the direction of Dr. Dubois, Professor in the Faculty of Sciences at Lyons, on the use of oxygen in seasickness. Dr. Dubois' theory is that *mal de mer* arises not primarily from brain disturbance, but from an incomplete ventilation of the lungs, increasing the amount of residual air and rendering imperfect the respiratory exchanges and certain results of visceral disturbance. It was found, under the inhalation of oxygen, all the unpleasant symptoms speedily disappeared and were followed by restful sleep. Eight or ten gallons of the gas suffice, breathed through the mouth, the nostrils being closed, in long and rhythmic inhalations. So many remedies have been suggested for *mal de mer* and have been only partially successful, that possibly this may only add one to the number, and yet the theory seems philosophical, and the results thus far have generally been excellent.

We are glad to learn that Mr. Frank Northrop, of 33 West Thirty-fourth street, who has given the most careful study to the action of oxygen as a remedial agent and who is looked upon as authority by the medical profession upon the subject, has prepared a small cylinder, holding about ten gallons of the gas, with a tube and mouthpiece through which it can easily be taken.

In addition to this, he has prepared a syphon of oxygenated water, both of which will be found most convenient for use at sea.

CONSUMPTION IN HAWAII.

HAWAII has recently become, by reason of its salubrious climate, a resort for persons suffering from lung troubles. Many of these persons, self supporting, have secured positions as teachers in the public schools. The next result, according to latest reports, is an increase of something like 100 per cent. in consumption cases in the island in a single year. By the direction of the Commissioners of Education, no sufferer from tuberculosis is hereafter to be permitted to teach in the public schools.

The prohibition is defensive of the children of the

islands, and no individual hardship resulting can serve to make it unjustifiable. It would be wise if such a rule could be made to apply to all schools. A similar rule has recently been adopted for the public schools in San Francisco. The rule also applies to children. In New York all the public schools are under the inspection of a physician to determine the presence of communicable diseases.

We suggest to the Board of Education the wisdom of directing special attention be given to the pupils showing symptoms of anemia and other conditions of the inroads of the first stage of consumption, which, if allowed to go on, are likely to develop into tuberculosis. It should be remembered that the tubercle bacillus is the result, not the cause, of tuberculosis, and the condition should be met before their development.

CHRISTIAN SCIENCE OUTLAWS.

TWO Christian Scientists have been found guilty of practicing medicine in violation of State law in Wisconsin.

Judge Allen in his charge to the jury quoted the decision of the U. S. Supreme Court in the Mormon case, holding that a man's religion must be subordinate to the laws of the land, and that he must obey the laws of his particular State. This seems like sound, common sense, and ought to be good law, but it will probably have no effect upon people who accept the dicta promulgated by this senseless sect.

SUNBEAMS THE GREAT AIR ELECTRIFIERS.

RECENT scientific investigations show that henceforth the sun must be known not only as the great light and heat giver, but also as the great electrifier. Prof. Servis says it is the invisible light-waves, the ultra-violet waves, possessing many of the strange powers of the X-rays and the Becquerel rays, that play the chief part in electrifying the air. These waves, while not affecting our sense of vision, have the property of separating the molecules of the air into multitudes of infinitely minute corpuscles called ions, half of whose number bear a positive and the other half a negative electric charge. The moisture in the air is drawn by preference to the negative ions, which serve as nuclei, about which the watery vapor gathers, and, drops of appreciable size and weight being in this manner formed, they fall toward the earth, increasing in mass until they become raindrops. Every raindrop, accordingly, carries down from the heights of the air to the ground an immense number of negatively electrified ions, and these on reaching the surface of the earth impart to the latter a negative charge; while, at the same time, the abstraction from the atmosphere above of negative corpuscles, or ions, leaves a preponderance of aerial particles having a positive charge, and consequently the air remains in an electrically positive condition.

Now, it has lately been shown that the health and nervous energy of the earth's inhabitants depend very largely upon the prevalence of positive electricity in the atmosphere. This being so it is clear at a glance how direct is the influence of the sun's invisible ultra-violet radiation upon the existence of man and his fellow beings on our globe. Whenever the normal contrast in electrical states between the earth and the atmosphere is disturbed we instantly suffer the consequences in the increase of the power of disease over us, and the decrease of our means of resistance to the influences that destroy life. The light and the heat of the sun are phenomena so evident to our senses that familiarity with them has dulled, to some extent, the appreciation of our absolute dependence upon them. On the other hand, this newly discovered electrical function of the solar radiation tends to excite apprehension just in the degree to which it appears mysterious and inexplicable. It shows that our dependence upon the sun, both for the awakening and the continuance of the life within us, is yet more complete than had heretofore been suspected.

Such discoveries, by furnishing new problems to be settled, justify all the efforts of the astronomers to extend their knowledge of the sun. The advances made sometimes appear technical and even fanciful to the uninformed, but they are all in reality of the highest practical importance. The vast silvery wings of the corona which excited the admiration and awe of multitudes watching the total eclipse of the sun last May were regarded by the great majority simply in the light of a marvellous spectacle. But the instructed observer, reflecting on the discovery of the ionization of the earth's atmosphere by the ultra-violet rays of sunlight, and all the stupendous consequences of that action, saw in the sun's coronal wings and polar rays an image of its electrical mastery over the earth.

Thus science marches on; each division aiding and receiving aid from the others, and since it has been repeatedly demonstrated that knowledge is power, who will be bold enough to assert that in the end man may not learn to control forces and influences which at present only arouse his wonder?

HOSPITAL IN CHINA.

MAJOR GENERAL JOHN VAN RENSSALAER HOFF, of the Medical Department of the Army, has recently been ordered from his station at San Juan to duty as chief surgeon on General Chaffee's staff, the commander of our forces in China. Major Hoff, as chief surgeon of Porto Rico during the past two years and as the head of the Relief Commission, in his success in meeting the demands made by the extensive destruction following the hurricane disaster during the past year and the starting of great sanitary reforms in which the whole population of the island of 900,000 were protected by vaccination, was brought prominently before the public. Such intelligence and executive ability did Major Hoff show in his work at

Porto Rico and in the other positions in the Medical Department that the authorities have very wisely selected him as the ablest and best fitted officer in the corps to organize an effective medical service and to establish a field hospital in the immediate vicinity of the scene of operations near Pekin and Tien-Tsin. It is the general impression that the origin of the trouble which has evolved so much of slaughter and placed the great nations of Europe and the United States in armed contact with the oldest empire in the world is due primarily to the proselyting spirit of the foreign missionaries, who have sought by every means in their power, by steps not always the wisest, to substitute their own religion for that of Confucius, centuries older than their own and containing many of its distinctive features. Whatever good has been accomplished by the missionaries has been due in a great measure not to their theological teachings, but to the scientific work of the medical department, who have introduced the more advanced thought of the higher civilized nations of the earth for the prevention of disease, the relief of suffering, and the uplifting of humanity. The religious and social ideas as taught by Christ in their purity and strength divested of creeds, theological hair-splitting and metaphysical fog which contribute most of the theology of the so-called Christian world, would probably follow an intimate contact with the more civilized nations of the earth and the consequent introduction of the then advanced ideas of manufacture, agriculture and the comforts of daily life. This truth is strongly illustrated in Japan, another branch of the great Mongolian family, now taking rank in all the developments of national life and progress with the foremost nations of the earth.

TREATMENT OF SURGICAL TUBERCULOSIS WITH IODINE.

BASSINI states that surgical tuberculosis, being a local manifestation of a general infection, cannot be cured by operative measures and claims that iodine is more productive of beneficial results than any other remedial agent. Durante combines 4½ grains of iodine, 45 grains of potassium iodide, glycerine and distilled water each 750 grains, and injects the solution under the skin into the muscles, the cavities and sinuses. He claims that the action of iodoform, which has been used extensively for this trouble, is due entirely to the iodine.

A NEW DIAGNOSTIC SYSTEM OF TUBERCULOSIS.

A RECENT issue of the *Nouveau Montpellier Medical*, June 29, refers to the odor which is apparent in a confined room occupied by a tuberculosis subject. This odor, Professor Ferran of Barcelona says, is produced through the agency of a saprophytic form of Koch's bacillus and can be used to diagnose tuberculosis especially poor in tubercular bacilli. To encourage in the sputum or other products of tuberculous ul-

cerations and reproduction of this saprophytic bacillus, which accompanies the bacillus of Koch and secretes a considerable quantity of spermine, Professor Ferran takes horse, mule or sheep serum immunized by this spermine-producing bacillus, and mixes in a sterilized vessel ten cubic centimeters of serum with three or four cubic millimeters of suspected sputum, and leaves the whole exposed to the air in a surrounding temperature of 98° F. At the end of 36 hours, and sometimes earlier, the odor of human semen due to the spermine produced by the bacillus is very perceptible. Ferran says this bacillus is inseparable from the bacillus of Koch, and the method gives results even in the earlier stages, when the bacillus of Koch eludes microscopic examination.

CUMBERLAND STREET HOSPITAL.

THE Brooklyn Homœopathic Hospital, known as the Cumberland Street Hospital, has become a city institution, the hospital turning over its property to the city, which assumes its debts, amounting to \$70,000. There will be no change in the treatment, the present medical staff, with such changes as may be thought necessary, continuing its work along the old lines. The hospital was organized by the late Dr. Alfred E. Sumner, during the Civil War assistant surgeon in the navy, and through his energy, executive ability and conservative methods became one of the most useful and scientific hospitals in the city; although established and in a good measure supported by the so-called homœopathic school, it was conducted on such broad and liberal principles as to be the only really unsectarian hospital in the city. Recognizing at its full value the philosophy of Hahnemann and believing the best work could be accomplished along the lines marked out by him and upon which the great principles of modern therapeutics in drug action, hygiene, and bacteriology have been worked out with scientific accuracy, it did not fail to keep in touch with the researches of great thinkers in every department of science and utilize them in their work. We congratulate the friends of the hospital upon this new chapter in the history of an institution which will ever stand as a monument to the memory of its broad, earnest and noble minded founder, Dr. Alfred E. Sumner.

THE NEW YORK MEDICAL JOURNAL.

LAST spring the temporary embarrassment of the publishing house of D. Appleton & Co. necessitated its passing into the hands of a receiver. It was ascertained in looking over the assets that the *Popular Science Monthly* and the *New York Medical Journal* were published at a loss. The *Popular Science Monthly* was sold to and is now conducted by a professor in Columbia College. The *New York Medical Journal* has recently been sold to Mr. A. R. Elliott, an advertising agent of this city. Those unfamiliar with the expenses of first class medical journals will find it diffi-

cult to understand why a metropolitan journal, ably edited, with a large advertising patronage and a circulation of six thousand copies a week should so far fail to meet its expenses as to have a large deficit every year. Literary magazines with their enormous circulation amounting to hundreds of thousands of copies naturally attract a very large advertising patronage at highly remunerative rates, an advantage which medical journals do not possess. It is to be hoped the *New York Medical Journal* will still continue under its former editorial management.

A HEALTHFUL SUMMER RESORT.

IT is not our purpose to write up a particular locality at the expense of others equally healthful, but merely to mention some points in respect to one, which our experience will bear us out in doing. In looking for a place to spend a summer, one naturally looks for a cool spot, with a pure clear atmosphere, with a water supply free from contamination, where disease germs and troublesome insects are unknown, and where the environment is satisfying both mentally and physically. The place we have in mind is Maplewood, New Hampshire, and it comes as near perfection as an inland resort as any with which we are acquainted. Situated as it is upon a sort of table land, it is protected by high hills from the warmer southern winds, and by the Presidential range from the piercing easterly current which is so chilling.

This range, some miles away, is constantly in view during clear weather, while to the west, the view has the far away Green Mountains for a background. The situation is ideal for purposes of drainage and is sufficiently elevated to be out of the reach of fogs. The writer was told that there was no dew, even, to be found here. The soil is such that rain is quickly absorbed, so that in half an hour after it has ceased falling one may walk with impunity.

The mean temperature here, as computed by Dr. W. H. Geddings, for nine seasons, was 64.91° F., which is lower than many of our celebrated resorts. The relative humidity is 65.5, according to the same authority, which shows that the climate is sufficiently dry.

It has been ascertained that there are only two days in a month, on the average, when an invalid could not venture outside with comfort and safety. The prevailing winds are from the southwest, and are so shorn as not to be bleak.

The altitude of 1,459 feet above sea level is also ideal for the great majority of people, sick or well.

As a health resort this locality has not been overestimated. As is well known, it is the mecca of the hay fever patients, and the place may be commended to a large class suffering from various affections. It is one of the best localities for phthisis cases, and is not contraindicated for any heart lesion, so far as we have experienced.

Our cases of Grave's disease, and of the various forms

of nephritis, have done excellently, so that they have returned here year after year.

The season here extends through October, and there is no pleasanter time to visit it than this.

DR. FRANK M. ROBINSON has been appointed superintendent of the Elmira Reformatory in the place of M. Z. R. Brockway, resigned. The management of the institution has long been a matter of public comment, charges of great abuse and cruelty were frequent, but whether true or not they seriously impaired the usefulness of the institution, rendering a change necessary.

BIBLIOGRAPHICAL.

SUGGESTIONS TO MEDICAL WRITERS. By George M. Gould, A.M., M.D. The Philadelphia Medical Publishing Company. 1900.

A series of editorials were published in the *Philadelphia Medical Journal* under the head of Suggestions to Medical Writers. These notes have been brought together in the volume under notice, to which has been added an article entitled History and Psychology of Words, and another on that phase of Medical Paleontology relating to signs and abbreviations. The subjects discussed are: "Suggestions as to medical English; titles, references, etc.; orthography, pronunciation; the use of words; medical paleography; style; rules for editors and publishers of medical journals; difficulty of medical reporting; some ethical questions; history and psychology in words." All of the subjects are handled with scholarly ability and marked common sense and will prove of great service to authors generally to whom a clear and concise style is of so much importance, but more especially to writers for the medical press, where not infrequently clearness of expression is sacrificed to the use of so-called scientific words.

PROGRESSIVE MEDICINE—Volume II, 1900.—A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth, 401 pages, with 81 engravings. Lea Brothers & Co., Philadelphia and New York. Issued quarterly. Price, \$10.00 per year.

Volume II of the 1900 series of Progressive Medicine is one of the most valuable which has as yet been issued. The entire volume is full of practical information and original research.

Dr. Coley, in his article on "Surgery of the Abdomen, Including Hernia," treats of one of the newest and most interesting phases of modern surgical practice, namely: operations upon the stomach. With admirable detail, this able authority describes the diagnostic symptoms, the methods of operating, treatment and the management of convalescence.

The ever important subject of appendicitis is next considered from a practical standpoint, the merits of a new method of operating being carefully investigated. Bassini's operation in hernia is described in practical detail, and operations upon the intestines, colon and

liver are exhaustively considered in the aspects of operation and results. Abdominal tumors and the methods for their diagnosis come next, and this is followed by a most interesting consideration of the use of the X-ray in detecting abdominal calculi. The illustrations given in this section, as in fact is the case throughout the volume, are most helpful.

Dr. John G. Clark gives an admirable résumé of the progress made in gynecology during the past year.

Dr. Stengel covers a list of diseases, from which arise a large proportion of human ills, following the preliminary pages in which the diagnostic value of the varying conditions of the blood is dealt with. Such pathological conditions as anemia, chlorosis, leukemia, etc., are practically considered. The diseases due to metabolism logically follow, and as the subject matter is treated in great detail, Dr. Stengel's section must prove of great practical value to the physician.

In treating of his specialty, Dr. Jackson has aimed to supply the requirements of the general practitioner rather than those of the specialist in ophthalmology.

SURGICAL ANATOMY. A Treatise on Human Anatomy in its Application to the Practice of Medicine and Surgery. By John B. Deaver, M.D. Vol. II. P. Blakiston, Son & Co. 1900.

The second volume of this really remarkable work on applied anatomy is now at hand and the most casual examination of it will show that it quite keeps pace with the elegance and excellence of its predecessor. It is with great pride that we welcome such an addition to our medical literature; the practical work of a practical man, indeed a veritable native product. The student and practitioner in former years were obliged to depend upon the works of foreign authors for their text books upon anatomy, and the aspiring young surgeon felt that he must visit the capitals of Europe for instruction at the hands of the surgical masters there. These conditions are rapidly changing. The same American ingenuity which has earned fame in other directions is being applied to surgery and its allied branches with unequalled success and the advance of surgery to-day in this country attracts the attention of the entire medical world. It is with a feeling of great satisfaction that we find a man willing to devote the time, energy and skill which must be snatched from an all absorbing vocation to produce such an eminently practical contribution to our literature as Deaver's Surgical Anatomy. It is a work for the general practitioner and the surgeon. Each will find his memory sharpened and his eye refreshed by a study of the thoroughly scientific text and the plates which reproduce the subjects with life-like accuracy. The plates are from dissections made for the purpose in the dissecting room of the University of Pennsylvania. The publishers cannot be too highly commended for giving their best efforts to the production of a work in which both author and publisher have worked together in producing a work, in its every department, of unequalled beauty and excellence.

W. F. H.

FRACTURES. By Carl Beck, M.D., with an appendix on the practical use of the Röntgen Ray, with 178 illustrations. W. B. Saunders & Co. 1900.

The author has brought to his aid in diagnosis the use of the Röntgen ray and all of the common and some of the rarer types of fracture are represented skiagraphically. This, by showing the positive condi-

tion of the fracture, with any splinter which may be present, facilitates the actual diagnosis and renders the treatment more direct and certain. The differentiation of luxations closely resembling fractures has received marked attention.

DUANE'S MEDICAL DICTIONARY. New (3d) Edition. A Dictionary of Medicine and the Allied Sciences. Comprising the Pronunciation, Derivation and Full Explanation of Medical, Pharmaceutical, Dental and Veterinary Terms; together with much collateral descriptive matter, numerous tables, etc. By Alexander Duane, M.D., Assistant Surgeon to the New York Ophthalmic and Aural Institute; Reviser of Medical Terms for Webster's International Dictionary. In one large square octavo volume of 656 pages, with 8 full-page colored plates. Cloth, \$3.00, net; full flexible leather, \$4.00, net. Lea Brothers & Co., Philadelphia and New York.

The new edition contains a vast amount of fresh additional material rendered necessary by the new discoveries and great advancement in every department of science. Eight new plates have been introduced illustrating subjects of great importance and interest. Under the principal diseases a sketch is given of their causation, symptoms and treatment. Under the more important organs is an outline of their structure and functions, and under each drug an account of its action, uses, preparations, and dosage.

THE LAW IN ITS RELATION TO PHYSICIANS. By Arthur N. Taylor of the New York Bar. New York: D. Appleton & Co. 1900.

The object of this work is to place within the reach of every physician a systematic treatment of those questions of law which present themselves most freely in his ordinary professional work, and to show the relation between the different questions of law, together with the reasons upon which they are based. The work is of great practical value and will save the physician an immense amount of trouble, annoyance and expense by fully acquainting him with his legal professional rights.

INTERNATIONAL CLINICS. Published by J. P. Lippincott & Co., Philadelphia.

The second quarterly volume of the tenth series of this valuable publication even excels the previous volumes in its literature and its illustrations. The three hundred pages are filled with lectures, full of thought and original investigation, from some of the ablest teachers and writers in our profession at home and abroad. We know of no way in which the general profession can be more in touch with the great minds of the age and its ever advancing thought than through the medium of the International Clinics.

A TEXT BOOK OF PRACTICAL MEDICINE. By William Gilman Thompson, M.D., Professor of Medicine in the Cornell University. New York city: Illustrated with seventy-nine engravings. Lea Brothers & Co. 1900.

At the commencement of a new century the author has aimed to give a comprehensive review of the present state of medical practice. Dr. Thompson's well known standing in the literary and scientific world, his great ability as a teacher and writer, his more than twenty years connection with hospitals and a leading

metropolitan college, are assurances that his work will be well done. The illustrations are for the most part from photographs seen in the practice of the author.

ATLAS AND EPITOME OF DISEASES BY ACCIDENTS. By Dr. Ed. Golebieski, translated from the German by Pearce Bailey, M.D. 40 colored plates and 143 illustrations in black, \$4.00, net.

The book gives in a very clear yet concise manner a systematic description of the sequel of injuries caused by accident. The subject is made more intelligent by the introduction of colored plates of great beauty and accuracy. The symptomatology dates either from the time when the surgeon is usually succeeded by his medical colleague or from the termination of both medical and surgical treatment, when the patient is ready to resume work.

ATLAS AND EPITOME OF GYNECOLOGY. By Oscar Schaeffer, of Heidelberg. Edited by Richard C. Norris, A.M., M.D. With 207 illustrations, 90 plates and 62 illustrations in the text. Philadelphia: W. B. Saunders & Co. 1900.

In the Atlas of Gynecology the author has reproduced accurate anatomic specimens from as many standpoints as possible and then has emphasized more sharply the changes under consideration. The text has been divided into two parts. The continuous text is written from a practical standpoint; the text of the plates on the contrary contains the purely theoretic, scientific, anatomic, microscopic notes and facts of general significance (concerning sounds, pessaries, etc.) so that in referring to the work the one text will not leave a disturbing influence upon the other. It is needless to say in the typographical work and in the artistic beauty and accuracy of these atlases no expense has been spared.

FORTY YEARS IN THE MEDICAL PROFESSION, 1858-1898. By John Janiver Black, M.D. Philadelphia: J. B. Lippincott Co. 1900.

No intelligent physician could have passed through the last forty years in active practice, during which our profession, more than in centuries of its previous history, has passed from a speculative and empirical stage to one of actual science, without having something of interest to say, the unfolding of great truths which should not be forgotten and which will be of interest not only to the present but future generations. Dr. Black, in the easy and graceful flow of his language, tells his story with all the fascination of the accomplished novelist. And what a story it is. The story of forty years of active work during the most important period of medical history, crowded with incidents picturing the dawn of the greatest scientific discourses of the age, the progress of preventive medicine, and a profession fast emerging from the mists and theories of empiricism ranking foremost among the sciences of the world and in the work of elevating the human race linked with them all. There could be no grander theme and the work could not have been better done. Speaking of the great Néilton, the surgeon and friend of Napoleon III, the author refers to a matter which was new to us which he believed was a great factor in the downfall of the unhappy emperor, and had very great possible effect on the modern history of Europe. Napoleon III had suffered for a long time from an organic stricture of the urethra, for which, when he was fifty-seven years of age, Néilton made an operation, practically forming a new

urethra. For ten years previous to his downfall Napoleon was a terrible sufferer—so great that he could give but little thought to the details of the government. Those around him became corrupt and he, with puny will and sickly judgment of one weighed down with intense suffering, led poor France into the Franco-Prussian war. Then, and not until then, did the truth dawn upon him of the absolute rottenness of his government and the thorough inefficiency of his army. The sorrowful surrender at Sedan marked the downfall of this unfortunate man and his death at Chiselhurst, England, in January, 1873, whilst undergoing the operation for crushing stone in the bladder under the direction of Sir Henry Thompson shows that his horrid vesical sufferings pursued him, beaten, humiliated and exhausted to the very brink of the grave.

TWENTY-THIRD ANNUAL REPORT OF THE BOARD OF HEALTH OF THE STATE OF NEW JERSEY AND REPORT OF THE BUREAU OF VITAL STATISTICS, 1899. Trenton, N. J.: MacCrellish & Quigley.

CORRESPONDENCE.

ON TOBACCO SMOKING.

Editors THE MEDICAL TIMES:

In the *Journal d'Hygiène*, Paris, May 10, this year, is an article quoting from the *Practitioner* concerning tobacco and its pernicious effects. After a careful physiological consideration the article concludes as follows:

"Fumer avec moderation ne produit aucun danger chez les individus bien constitués et sans tache héréditaire."

All who are lovers of the weed must find some considerable delight in this consoling verdict.

But is there nothing to be said against the methods of smoking? Smoking is like eating—wholesome when properly conducted.

We who burn incense to Nicotinus must remember that "excess is the cemetery of all pleasure."

How few know or care how to smoke hygienically. The tobacco sold is, much of it, *highly injurious*, and cheap packages with gaudy-colored labels are apt to contain mixtures unfit for smoking. A good cake of virgin leaf, yellow as gold and dry and clean, smoked with or without some bark to dilute it, is usually the best for smoking.

Our Indians are past masters of the art of smoking—they have teeth as white as ivory and dyspepsia and indigestion rarely torment these healthy aborigines. The "shong sasha" or kee-nick-kee-nick mixture is of pure tobacco with willow bark. The Indian pipe is of cool stone with a long reed or wooden stem. Granulated tobacco is for the average man the cleanest and most wholesome smoke, and some of the cut-plug is not too strong and not "doctored." The pipe should be one easily cleansed—two pipes are better than one, using them alternately. There are some very zealous people who say that smoking is a sin—but no one is obliged to smoke against his will, and as some of the best and truest men, including prominent divines, continue to smoke, notwithstanding the maledictions, we can stick to the delicious weed without fear of condemnation if in other respects our morals are above fault-finding. Smoking does NOT lead to drinking habits, but does lead away, and the most rigid Pharisee would pardon the soldier in the trenches who lapsed so far

from virtue as to take now and then, when he could get the opportunity, a comforting smoke.

Quoi qu'en dire Aristote et sa docte cabale,
Le tabac est divin et n'a rien qui l'égale.

ON BERIBERI AND BARBIERS.

Editors THE MEDICAL TIMES:

Some time ago several persons asked us, "Doctor, what kind of a disease is berry berry?"

We, thinking that the question was asked as a riddle, answered, Yankee like, by asking questions. We were shown a paragraph in one of our papers about a sea captain's being at his home in a nearby town sick with a disease contracted on the Malabar coast, and that it was called berry berry in Ceylon.

We did know the disease! and we also know that a phonographic error was to blame for the spelling of the disease beriberi. On investigation we made up our mind that the captain's sickness was not beriberi, but was one that is closely allied, and is often associated with it. So to correct the error of spelling and to answer our questions, we wrote a short essay and sent it to the journal which published the news of the captain's illness.

Our essay was read by a medical gentleman, who intimated to us that "a discussion of that subject would be of particular interest. * * * For we may be called upon to treat it in the new world which is being opened to us."

And we will do our best to comply with the wish; and, as we think it essential that the dual diseases should be diagnosticated together, we will try to do so understandingly. Both BERIBERI and BARBIERS are what may be termed climatic diseases.

Beriberi.—Symptoms: The attack may be gradual in some cases; in others sudden and severe. When gradual, which is more commonly the case, the patient will complain for a week or more of weakness, and be averse to make the least exertion. Then follows great pain, numbness and stiffness of the lower extremities, accompanied with œdema; muscular weakness and dyspnoea on the slightest motion; a numbness, fullness, oppression and weight at the scrobiculus cordis. Anasarca extends over the body, and leucophlegmatic tumescence of the countenance supervenes.

As the disease advances the dyspnoea increases, the face is more swollen and turgid, the lips at first are colorless, become blue and livid, the legs become more feeble and paralytic.

The stomach is irritable, and in the advanced stages of the disease it rejects all ingesta; the bowels are constipated; the urine scant and very dark, in some (many) cases it is nearly suppressed, the pulse at first is either more or less quick, small and hard, or is but little affected; after a time it is irregular or intermittent, and the dyspnoea is very distressing, attended with great anxiety, and is soon followed by a peculiar fluttering about the heart, sinking or syncope, followed by great palpitation.

In the advanced stages of the disease the patient cannot lie down; his sleep is always unsound.

A recumbent position induces violent palpitations with a feeling of suffocation. The oppression at the præcordia, and weight at the stomach increases, and are attended with spasms of the muscles of the throat and abdomen; the countenance is livid, extremities are cold; vomiting is frequent or nearly incessant; the pulse sinks and the patient dies in a state of suffocation.

In this, the most common form of the disease, it

generally runs its course in from three to four weeks; but in the slighter cases, the patient may experience several relapses, and then dies suddenly. The anasarca may have nearly disappeared, and the patient believed to be convalescent. In some of the milder attacks, several of the above symptoms are slight, and the disease is of much longer duration, or they may consist of several distinct seizures.

In the more sudden and severe attacks, the pain, numbness, and œdema of the lower extremities, the dyspnoea, anxiety; in fact all the more urgent symptoms are either present from the commencement or they quickly follow each other, and the patient dies in a few hours, or in a day or two.

However, such cases are not as frequent as those which are more mild. Beriberi and barbiere are often confounded one with the other.

But there are multifarious differences between them. Beriberi is a form of acute dropsy very generally spread throughout the whole body.

Barbiere is a chronic disease, in which paralysis, tremors, spasms, and contractions of the limbs, and great emaciation are the remarkable symptoms.

Beriberi is acute, and most often of short duration, and is distinguishable by the general œdema, dyspnoea and its sudden fatal termination, and the frequency of its attacks.

Barbiere is a species of paralysis. But, as stated above, one is often associated with the other, either of them being the primary affection.

We have seen several cases that commenced in barbiere suddenly assume the more fatal and acute form of beriberi; and the latter will often present several of the symptoms characteristic to barbiere.

Some consider it as being an ally of Cachexia Africana, but the œdema and leucophlegmatic intumescence of the countenance characterizes this disease sufficiently to make the distinction plain.

History of causes are contradictions. It is most prevalent in that tract of country where the air is damp, cold and loaded with vapors, and the changeableness of temperature greatest.

In another tract of country it is very prevalent, occurring during the change from wet to the dry season; and when a strong and hot land wind prevailed, and it has prevailed under different conditions, as respects seasons, atmosphere and topography. In some particular districts, it seemed to be endemic in one year more than another, and to assume, at indefinite periods, almost an epidemic form.

Opinions respecting both the remote and proximate causes differ greatly.

It was most prevalent among Europeans. It was prevalent in the British army in Ceylon. Both officers and soldiers fell victims to it after they had been in Ceylon about six months.

It was considered that a residence of six to eight months was necessary for its generation.

It prevailed greatly among soldiers who had taken mercury for venereal diseases, and those who were in the habit of drinking spiritous liquors. (Good for an argument on the canteen question in our army now in the Philippine Islands.) Strange, but true! That women are not afflicted with either of the two dire complaints. What are the reasons? We think we could answer our question, but we leave it open for others to form opinions. During our stay at Kandy, Ceylon, of two years, eight months, we only knew of but two women who were afflicted, and they both invited a good

attack of barbiere by being out all night when the air was damp and cold, their clothing loaded by the vapors, and drying on them in the morning by the wind and a hot sun. Both women had been in Ceylon about ten months. A little skye terrier that was with them had the disease. The same treatment and attention was given the little four-footed friend, and as soon as it was possible a sea voyage was taken. Right here is a good time to tell of that treatment, and one which we always employed afterward. We had four or five pieces of calx, each piece about the size of a greening apple, wrapped around with a wet woolen cloth, and several thicknesses of dry cloth over that. One piece was placed just above the hips on both sides, and at both thighs; also at the feet. This soon produced a copious warm perspiration; the stinging pains were subdued greatly, the natural temperature regular, and the extensor muscles relaxed, and the numbness disappeared. This we called our "First great aid." Of course we paid attention to the due performance of the secreting and excreting functions; tonics, combined with warm cardiacs. *Leonurus cardiaca*, which combines the principles of emmenagogue, nervine, antispasmodic and laxative; cinchona, cloves, cinnamon, and a small portion of colchicum.

When the patients had been rubbed dry after their lime bath, a stimulating liniment was rubbed vigorously along the spine. Strips of white cloth (2½ inches wide, 8 or 10 long) were soaked with cantharidin and placed over the extensor muscles, and the patella. Vesication was complete in two or three hours.* The patients were convalescent and around again in two weeks. This was the method of treatment we pursued whenever we were called upon to treat a case of barbiere.

We never failed to use the lime in the more terrible disease beriberi.

We will look at some post mortem notes made on one cadaver before we go further, or diagnose barbiere.

In the long ago years, 1852, '53 and '54, of which we are writing, post mortem examinations were seldom made and microbes or bacteria were not studied.

I never knew of but one post mortem being made on any one who died from either of the two diseases, and that one! We kept a copy of the notes we wrote down for the surgeon who made it, and which now lies before us. "Edematous effusion quite profuse in the subcutaneous cellular tissue, paleness of the muscles, a watery obesity and deposition of fat in the viscera, fluid effused between the membranes of the brain, and in the ventricles, with vascularity of the encephalic membrane, with slight congestion of the spinal canal; serum in the pleural cavity, and the pericardium; the lungs were filled with dark blood and their tissues œdematous. The heart enlarged and soft. The peritoneal sac filled with serum. Liver engorged with dark blood, is very large, and of a deep color. Spleen, very soft, large, and all the large veins are full of black blood. No inflammation in any part of the body."

We were of the opinion then that beriberi was dependent upon the active congestion of the lungs, liver, and spinal cord, and that the congestion was closely connected with the weakened powers, and an increased vascular action.

The palsy arose from congestion of the veins and effusion of fluid in the spinal canal.

* We did not blister the dog; but we rubbed him well with stimulating liniment; his hair fell off, but it grew again and changed from blue to a silvery white.

Barbiers.—Most commonly commences with pricking or stinging pains in the gastrocnemii muscles, and the patellas, with numbness, trembling and ataxia (locomotor). Both lower limbs are always affected alike, and in most cases the forearms and hands and the vocal organs are similarly seized.

As the disease advances the limbs are deprived of all feeling, and lose their natural temperature, the limbs become contracted and entire paralysis supervenes. Loss of appetite, indigestion and emaciation; the pulse sinks at short intervals into a fluttering state; all vital powers are depressed and death soon ends the suffering.

The duration of barbiers may be for months, and it may present multimiform grades of severity. Its forms are commonly more mild.

We have described the severe cases of both diseases. The causes of this affliction seem to be many. Cold and moisture applied to the body, intoxication, violent exercise in the sun, lying on the ground in the heat of the day, exposure to the dews of night, sleeping when thus exposed, long marches, irregularities, in fact whatever exhausts the strength.

Cannot the above causes of these climatic and malarious maladies be applied to some of the ills which are now afflicting our soldiers in "our new world?"

Beriberi and barbiers appear to arise from the same causes, of habits, climate, irregularities, exercise in the sun, and the chilling damp airs of night. The depressing debilitation and the failing of nerve power, the palsy of both diseases and the oedema of the former. We consider that the treatment for both diseases should in a great measure be nearly one and the same.

It should combine stimulant, tonic, alterative, antispasmodic, sialagogue, diuretic, electricity and vesication.

MARGARET ALDEN MILLER, M. D.

Bangor, Me., Aug. 23, 1900.

CLINICAL NOTES OF A UNIQUE CASE.

Editors, MEDICAL TIMES:

Case.—M. M. P., aged 47, male, unmarried, public official; family history, negative; his personal history includes the diseases of childhood, with an attack of smallpox when he was 22 years old, from which he made a good recovery. The man was referred to me by Dr. L. with the statement that "this case has been extremely annoying to me, having exhausted all my resources; now I find myself at the point where I was when I began treatment a year ago; I have had no success whatever; the patient is gradually failing; his is a case of extreme alcoholism with complications."

Clinical History.—The man had been a hard drinker for many years; he has absolutely no desire for food, his only nourishment being a few milk punches, beer, and liquor in excess. He cannot retain any solid food and cannot sleep. He has a strange expression and I noted the following special features: yellow, injected conjunctivæ; extreme case of eczema of the face and scalp; marked degree of mental hebetude; rambling conversation; great weakness; indifferent gait; muscular tremor; bowels torpid and inactive; tongue coated; fetid breath; pains in loins extending down the ureter to the neck of the bladder; urine high colored, containing casts, blood and pus; early morning vomiting, tympanites, accelerated pulse and breathing; constant desire for cold drinks which are vomited as soon as taken.

Diagnosis.—Chronic alcoholism, nephritis and gastritis.

Treatment.—All food and drink was forbidden, even though he did not take any. This, of course, had the desired moral effect, for human nature must be contrary and as a result the patient began to brood over the restriction, and soon had his mind set on eating. Right here I will state that in such cases success depends much upon hypnotic suggestion; this valuable agent should never be neglected, as it is a most useful auxiliary to the physio-pathological treatment indicated.

Medication.—Strychnine arsenate 1-100 grain, every two hours, in tablet form, followed by a half-glass of water taken slowly with one ounce of beef juice. The patient soon began to improve generally, the appetite returning, and the weakness gradually disappearing; but the stomach would not retain even half of a soda cracker, and insomnia persisted with distressing vomiting and violent retching. Opiates, zinc and bismuth salts, nitrate of silver, etc., had no beneficial effect whatever; finally, as a *dernier ressort*, I determined to try the new remedy, "Chloretone," or trichlor-tertiary butyl alcohol, a white crystalline compound with marked camphoraceous odor. This was given in five-grain doses, followed by a drink of ice water every half hour, until the effect was secured. To my surprise a natural sleep lasting 12 hours followed. Upon awakening the patient asked for food, and as an experiment, two soft boiled eggs, toast, and a glass of milk were placed before him, all of which he devoured with apparent relish. Fearing that he might not retain that quantity of food I administered five grains of Chloretone in a half glass of ice water, to which two teaspoonfuls of cognac had been added. The meal did not prove distressing and was retained. The routine treatment consisted in the administration of diuretics, strychnine arsenate in 1-100 grain doses, cannabis indica, hyoscyamine, and betanaphthol bismuth in 5 grain doses, before meals.

Diet.—Toasted stale bread, swieback, fresh butter-milk, Iceland moss jelly, Mosquera's beef jelly, boiled fish, soft boiled eggs and chopped beef.

The patient made a fair recovery, with steady improvement. He has returned to his occupation, takes his restricted but varied diet with gusto, and has thus far totally abstained from smoking and drinking.

J. A. GOTTLIEB, M. D.

New York, Aug. 23, 1900.

A CASE OF HATPIN IN THE MALE URETHRA.

Editors, MEDICAL TIMES:

Noticing an article in a medical journal commenting on a case of hatpin in the urethra prompts me to report my case.

The patient was a man about 40 years of age, married, whom I was called to see by Dr. Moon, of this city. The history of the case is as follows: He had gonorrhœa about ten years ago with consecutive strictures. Having indulged a little too much in "mixed drinks," he found he could not urinate. He attempted to dilate the canal by passing a lady's hatpin, head first, into his urethra. In forcing the pin it slipped from his grasp into the bladder. In his endeavors to withdraw it he perforated the urethra, which resulted in the free oozing of blood and the slipping of the pin further into the bladder.

Examination of the urethra, behind the scrotum could be detected a hard body, which caused intense pain upon manipulation. Owing to the extreme sensitiveness of the patient a general anæsthetic was administered, and after the usual antiseptic preparations, a

perineal urethrotomy was made. The finger being introduced into the opening, the pin could be felt. The point was grasped by a pair of clips, and extraction accomplished without much effort.

The pin was about eight inches long, its head about one quarter of an inch in diameter. It was quite rusty.

Fearing a sharp cystitis, the bladder was irrigated with Thiersch's solution and a soft rubber catheter retained for drainage.

Following the operation the patient developed a slight urethral fever, which quickly cleared up, and an uneventful recovery followed.

J. HUBLEY SCHALL, M. D.
Brooklyn, N. Y., Aug. 23, 1900.

THE INFLUENCE OF ODORS.

Editors, MEDICAL TIMES:

Those who have never known the days of the old omnibuses in Boston and New York can still gain some idea of how confined the passengers were if they take a ride with three other people in a hack. In cold weather one can watch the breath from passenger to passenger exchanging exhalations, and it is then quite clearly demonstrated that infection by breath is no myth. If those we meet were perfectly healthy no harm might result from this communistic breathing, but people who have perfect health with sweet, odorless breath, are the exception which proves the rule that contagion by means of the breath is a common occurrence.

The influence of odors is of great value in estimating the means of care in nervous patients. The odor of new-mown hay, and of sweet flowers and shrubs, and of the rich life-giving pines is elevating, inspiring, cheering; while disgusting odors depress and discourage, as well as nauseate the sick and the well.

It was formerly believed that odors bore an important relation to infectious and poisonous matters, and therefore the deodorant drugs were employed under the impression that with the removal of the smell there also occurred a destruction of the poison supposed to be its accompaniment. The association of foul odors with pathogenic micro-organisms is now recognized as inconstant and it is known that a foul smell in itself is no more indicative of the presence of disease than freedom from odor is a guarantee of safety.

For these reasons deodorizers are employed at the present time merely for the æsthetic purpose of relieving the olfactory sense of disagreeable impressions, while the more important matter, the prevention and the destruction of morbid material with which an ill smell may or may not be associated, is accomplished by the use of cleanliness, antiseptics and disinfectants.

Disinfection and antiseptics, then, have at the present time practically superseded deodorizing as sanitary procedures; their aim is radical, and in inhibiting or destroying the disease-producing material they remove the source from which a foul odor might proceed. All antiseptics and disinfectants may, therefore, indirectly act as deodorizers, while some few of them are direct deodorizers as well.—Dr. Henry A. Griffin, in *Foster's Practical Therapeutics*, Vol. I, page 326.

It is reported that a single sniff of highly concentrated prussic acid will kill a man as fatally as if he had been shot through the heart.

The odor of a bad egg is due to the presence of sulphuretted hydrogen and is one of the most nauseating and disgusting of bad smells. The stench of sewers

and of bone factories are attributable to the same foul gas. Selenium gas has the odor of putrid horseradish, and it is said that Berzelius, its discoverer, nearly paralyzed his olfactory nerve by a sniff of hydrogen selenide.

Tellurium is said to be even worse, and a story is related of a physician who compelled a patient to rest in seclusion for a month by giving her a pill containing a small quantity of this disgusting element. It was simply impossible to endure the odor of her breath.

This recognition of odors, to which Professor Slosson alludes, is well known to physicians, some of whom are readily able to diagnose diseases and morbid conditions by odors. The famous poem relating to the extraordinary tasting ability of the Yankee skipper is not such a remarkable extravagance as one would be at first inclined to assume. Taste, as well as touch, are wonderfully acute in some experts.

RETROSPECTIVE DIETETICS.

New Facts About Digestion.—Pawlow, of the Petersburg Institute for Experimental Physiology, has recently published the results of extensive experimental investigations carried out under his direction in relation to the work of the digestive glands. The great exactness of the observations made and the scientific skill brought to bear in this experimental research place the results upon a thoroughly scientific foundation. In these investigations he confirms some facts which had previously been held upon less positive grounds than are now presented. Other facts are quite new. All are interesting and practical.

One special point which it was the purpose of the author to settle, was the influence of the different food substances upon the several secretions. Particular attention was given to the study of the pancreatic and gastric secretions. It was found that the amount of secretion varied with different food substances, as milk, bread, meat, etc. Pawlow noted, as have Hayem and Winter, that the gastric secretion slowly rises to a maximum after the taking of food, and follows a distinct and constant curve during the acid stage of digestion. The same is true of the secretion of pepsin and other ferments. These curves differ for different food substances, and remain constant for the same food elements.

A very interesting observation was that the gastric and pancreatic secretions are both under the absolute control of the vagus nerves. Irritation of the vagus increases the secretion, while dissection of the vagus, even during feeding, renders further secretion impossible.

The influence of the sympathetic in favoring secretion was found to be neutralized to a large extent, so as to be almost altogether hidden, by excitation of the vaso-constrictors.

A very important and practical observation was that fats diminish the gastric secretion. Soda diminishes both the gastric secretion and that of the intestinal glands. It was pointed out long ago by Landois and Stirling that the presence of fat interferes with the digestion of hydrocarbons, but Pawlow has shown that fat likewise diminishes the digestion of albumins through its inhibitory influence upon the gastric secretion. This fact explains very clearly the influence of fats in producing so-called "biliousness," a condition in which the gastric secretion is insufficient to prevent the putrefaction of foods in the stomach, giving rise to

ptoms which may produce systemic poisoning with the various general and local disturbances accompanying a so-called bilious attack.

The deterrent influences of soda upon the gastric and pancreatic secretions suggest the vast mischief which is being done by the almost universal use of baking powders, saleratus, and salsoda in the making of bread. Another source of injury through the use of alkalis, which ought to be mentioned, but which seems to be unsuspected, is found in several of the popular infant foods, in some of which as high as one per cent. of potash is used in the process of manufacture.

Pure albumin was found to have no effect in stimulating gastric activity, but peptones and meat extracts were found particularly active in exciting the development of hydrochloric acid. This observation contains a most important lesson in the therapeutics of hyperchlorhydria. It has long been the custom for physicians to recommend meats—sometimes an almost exclusive meat diet—as a remedy for this very common gastric disorder. Meat affords temporary relief by neutralizing the hydrochloric acid present, but at the same time the meat extracts which are present stimulate the secretion of hydrochloric acid, which is still further favored by the neutralization of hydrochloric acid by the meat proteids. Hydrochloric acid is formed, which is converted into an acid albumin, or syntonin, while the meat extracts encourage the formation of more acid. Thus the malady is intensified.

Carbohydrates lessen the secretion of hydrochloric acid, and hence are the food par excellence for this condition. The practical difficulty which is often encountered in the fact that in hyperpepsia, starch digestion is often performed with difficulty. It is a very common thing to find the coefficient of starch digestion as low as 25 or even 20 in cases of pronounced hyperpepsia. It may be even lower in extreme cases. This difficulty may be overcome by the use of heat-digested cereals, such as zwieback, and other toasted cereals. In extreme cases it is highly advantageous to go a step in aiding starch digestion by prescribing malt-digested cereals, prepared according to Leibig's formula. It is even wise, and in some cases necessary, to withhold for a time all starch which has not been perfectly transformed, as in extract of malt preparations.—*Modern Medicine.*

A Few Facts About Fruit.—In the summer season the various fruits in great abundance indicate that this particular food substance is especially appropriate for use during the hot months. The following facts will be found of practical interest by those who desire information concerning this subject:

Green fruits, as the green banana, contain large quantities of starch. As the fruit ripens, the starch is converted into levulose, or fruit sugar, a remarkable substance to which the flavor of fruit is due. Unripe fruits also contain tannin, which likewise disappears in the process of ripening. The ripening of fruit is a sort of cooking process. The starch is first converted into dextrin, then into sugar. Some portions of the dextrin remain unconverted. In Mexico the natives speak of fruits which have been ripened upon the tree as having been "cooked in the sun" (*cocido en el sol*).

The chief characteristics of ripe fruits are the presence of fruit sugar, or levulose, dextrin, and the vegetable acids (stearic, malic, and tartaric). The proportion of proteids found in fruits is very small, in fresh fruits usually from one half to one per cent. Oranges, limes, lemons, grape fruit, and the shaddock contain

stearic acid and malic acid to some extent; stearic and tartaric acids are found in peaches, pears, apples, gooseberries, currants, apricots, and cranberries. The most acid fruits are lemons and currants.

The most highly nourishing of all fruits taken in the fresh state are grapes, figs, dates, and cherries. Dried grapes, or raisins, have a high nutritive value, as do the dried fig and date. The following list shows the percentage of sugar contained in a number of common fruits:

	Per Cent.
Grapes	14.9
Sweet cherries	10.8
Sour cherries	8.8
Apples	8.4
Gooseberries	7.2
Prunes	6.3
Currants	6.1
Whortleberries	5.8
Strawberries	5.7
Blackberries	4.4
Raspberries	4.0
Plums	2.1
Apricots	1.8
Peaches	1.6

—*Modern Medicine.*

Unrestricted Diet in Typhoid Fever.—By reason of its long duration, its pyrexia and the character of its lesions, typhoid fever may be considered a wasting disease, and when death occurs, barring complications, it is most commonly due to asthenia. This result, the editor of the *Journal of the American Medical Association* thinks, may be due in part to the insufficiency of the diet usually employed, and the tendency to remove this source of danger that has manifested itself of late in various places would seem to be a natural one. The impairment of appetite, the deficiency in secretion and the interference with the digestive functions resulting from the pyrexial process, as well as the state of the intestine and the presence of diarrhea, will as a rule contraindicate the administration of solid or semisolid food, or even of liquid food in large amounts, but in not a small number of, and perhaps in most cases, at some stage of the disease these deterring factors are not present, and under such circumstances an amplification of the customary diet would seem justified. . . . The results obtained in a series of 200 cases of typhoid fever in which a more liberal diet was permitted are reported in a recent communication by Marsden (*Lancet*, Jan. 13, p. 90). All of the patients received milk only at first, but in mild cases, without contraindication, bread and butter with custard, fish with mashed potatoes, chicken, and finally minced meat were given on successive days until convalescence was well established. In severe cases peptonized milk alone or together with meat juice, etc., was continued into the period of convalescence. The patient's wishes were accepted as a guide, in so far as they could be determined to be genuine, and in no instance was solid food forced on a patient. No injurious consequences were observed, while recovery appeared to take place rapidly, the risk of surreptitious feeding with possible harmful substances was diminished, and the tendency to bolt food without proper mastication was lessened, as was also that to asthenic complications, such as post-typhoid, anemia, gangrene, etc.

Dr. J. Hunter Wells, of Pyengyang, Korea, in a recent communication to the *Medical Record*, says: "I have long been of opinion that an unrestricted diet in fevers—and I came first to allow it because I could not help myself, treating so many in their homes and with them so ignorant of even the simplest measures—I have come

to think that an unrestricted diet, trusting to the craving of the patient largely, instead of doing harm actually does good. I cannot assert that many of my cases were the usual typical text-book typhoid-fever cases. On the contrary, most of them seemed to be mixed. The type of which there has been quite an epidemic the past month or so is of quite a different character from that which was prevalent this time three years ago, but the very general recovery under quinine, phenacetin, and unrestricted diet is a marked feature in common. . . . I lately treated in one hovel five patients who were taken down one after the other, with what, while I would not call it typhoid here, is what I feel sure, in an American, would have been that disease, and I am inclined to think that the free feeding of rice paste and other such indigestible (?) stuffs so greatly modified the disease that its typical character never came out.

" The restricted diet reduces the strength of body and of mind so much that what might be thrown off in a comparatively short time, and which has done so in the cases in which it has had opportunity in full diet, has run for months under the old plan. . . .

"Patients who date their recovery from fevers from the time they surreptitiously obtained some forbidden food are known to all of us. Out here in Asia they do not have to sneak it in, but their friends give them everything they want, and as yet, I must say, I have not seen so much evil resulting from it as I have good. This may not be scientific and may shock the laboratorians, but it is fact, and if you wish to pass it by with the thought that Asiatics are different from Anglo-Saxons, very well. All I know about it so far is that they recover from fevers under unrestricted diet and very simple medication, with a promptness and an ease which I longed to see manifested in such cases in private-practice in the United States before I came out here to the shining Orient."

Distilled Water as a Food.—Ephraim Cutter, in a paper on this subject (*Jrnl. A. M. A.*, May 26, 1900), concludes as follows: "That water by itself or inhaled in the air passively and constantly is a food indispensable to all mankind; that, if so, why feed 'calculi' patients on waters which add to the already overloaded collections? That distilled water properly aerated is the best for such rheumatics and asthmatics; that if Germans have been poisoned by distilled water, it is a very remarkable idiosyncrasy in those who have figuratively more vitality, more strength . . . than Americans . . . ; that water is a solvent in biology; that the purer it is the better will water wash out the viscera, dissolve calculi, ease the flow of blood through the more than 100,000 miles of capillaries in the system, promote osmosis, soften tissues, accelerate secretions and excretions, equalize all circulations, aid cerebration, cardiation, digestion, metabolism; that distilled water is free from bacteria, yeasts, epithelia, loaded or not with cryptogamic diseases; that whatever gets in from the morphology of the air of the kitchen cannot be so deleterious, as some aver, because the culinary queens inhale it all the time, harmlessly.

"The writer hopes it will become the fashion to 'treat' people with distilled in place of undistilled water and spirituous liquors, as he found it appetizing, satisfying, going to the right spot, clean tasting, and beautiful to the eye as well as the palate, wholesome and never intoxicating (toxa=poison), as our experience proves with the Americans and English, though Dr. Koppe asserts it has. I respect him, but do not accept

what he says, as it does not tally with the facts here given.

Horseflesh as a Food.—In view of the fact that horseflesh is being used more and more as a food in Germany, and through force of necessity, as in the South African war, must at times be eaten in lieu of other meat, it becomes a matter of importance to determine its effects upon the body, says the *Boston Medical and Surgical Journal*. This Professor Pflueger has done, his results being published in the *Archiv fuer Physiologie*, and abstracted in a recent number of the *Lancet*. The experiments went to show that the known deleterious effects of horseflesh, characterized chiefly by excessive diarrhea, is due to a toxin, probably consisting of neurin or some modification of that poisonous agent. The paper concludes with some suggestions for cooks in beleaguered garrisons who are reduced to horseflesh as food, which, coming from the pen of one of the most distinguished living physiologists, deserve consideration. In one mode of dressing the horseflesh is converted into a pulp, and for every two pounds about three-quarters of an ounce of ox fat or mutton fat taken from the region of the kidneys is served up with a sauce of meal as a hash. Another is to cut it into collops, boil it in water, throw away the broth, and serve it with a fat sauce. Beer, wine, tea or coffee may be taken with it. A third is to convert it into a pulp, add a tenth of its weight of rice and a fortieth of its weight of fat, and cook by steaming; or, lastly, it may be beaten up with plenty of fat and eaten with an oily sauce.

HOSPITAL REPORTS.

SURGICAL CLINIC ON DISEASES OF CHILDREN.

BY C. R. L. PUTNAM, M.D.,

Instructor in Diseases of Children, Post-Graduate Hospital, New York City.

Case 1. Double Hare-Lip.—This child you saw operated upon last week, and the operation has not turned out to be a perfect one. Although the mouth is covered in and the gap gone there remains two fistulas, one in each corner of the wound; these fistulas may need to be, at some future time, closed in. (They have since closed perfectly. There does not appear to have been any infection of the wound. The operation was done at one sitting. If there be a projection of the intermaxillary bone, this bone should be replaced, if possible; if not, then it should be excised. In these operations there are certain points which should always be borne in mind. It is necessary to obtain union by first intention; to accomplish this the edges of the wound must be carefully approximated and there should be no tension in the parts. The cleft was between the central and lateral incisors, and was complete on both sides, the situation in the great majority of cases.

Case 2. Single Hare-Lip.—Here is a child who presents an entirely different form of hare-lip. The lower jaw is very poorly developed and before the operation the intermaxillary bone projected nearly an inch in front of it. The fissure was on the left side involving the lip clear into the nostril, and the whole length of the intermaxillary fissure. Since the operation the constant pressure of the newly made upper lip has moulded the intermaxillary and maxillary and pressed them back so

much that the falling away of the lower jaw is scarcely noticeable.

By means of a pair of bone forceps properly guarded and placed in the nose the intermaxillary line on the sound side was broken; the vomer was also broken. The edges of the bones were trimmed and the parts brought together and sewn with silk worm gut. Then a simple operation for single hare-lip was done. Accurate suturing of the mucous membrane is of even greater importance than the suturing of the skin, for in those unfortunate cases in which primary union does not occur, it will nearly always be found that the breaking down of the recently glued surfaces has commenced on the deep or mucous aspect of the lip. One should not forget that in fracturing the vomer and pushing back into place the portion of bone in the cleft, i. e., the *os incisivum*, not unfrequently means fracturing the ethmoid, possibly at the base of the skull. When the bone has been replaced there is no doubt that the fissures in the lip can be the more readily sewed, and a better appearance is produced, that the normal shape of the jaw is maintained, that the lip does not recede and that the patient may in after life use his own incisor teeth; all this follows in those cases which have been operated upon successfully. After the operation a soft rubber catheter may be placed in the nostril on the side where the cleft serves as a support between the broken septum and the lateral cartilages; this catheter always should be used, unless the passage is clearly unimpeded, in order to prevent callus forming and creating a spur on the septum; this will not occur if such a splint be used. In this child you notice the catheter in the nose.

In both these cases a blanket suture of silk worm gut was passed from cheek to cheek and left in for three days to prevent tension of the delicate approximating stitches.

Case 3. Cervical Adenitis.—This child presents all the features of an ordinary cervical adenitis. The majority of these cases are tubercular in character, although their origin appears to be from inflammation of the tonsils, which destroys or lessens the function of that gland as a filter. This is not a multiple adenitis but a simple enlargement of this small group of cervical glands. There is no doubt but that at some time or other the tonsils have been more or less inflamed. In this instance it might be advisable to widely lay open the part, dissecting carefully everything out of the way, and remove the glands in their entirety, bringing the parts together carefully in order to get primary union.

Case 4. Tubercular Adenitis.—In this case we have a tubercular adenitis involving the cervical glands, and they have broken down. The diagnosis in this case is made by the general appearance of the child. After invasion of the glands by the tubercle bacilli a fatty metamorphosis occurs, which converts the gland into a whitish caseous material, often mingled with a thick curdy pus. For a long time it was argued that there was no tubercle bacillus in that pus. It has frequently been demonstrated. It can also be found in the parenchyma, as can be readily ascertained by injecting the suspected material into the peritoneum of an animal, as a guinea-pig, when tubercular lesions will be produced. Thus, although the number of bacilli are so few that they are not found by other means, their presence has been frequently proved. This condition might be confounded with either a lipoma, sarcoma, or syphilitic glands. In the latter, differentiation is not difficult when we remember that in acquired syphilis the involvement is multiple and discrete, and that the adenitis of congenital syphilis does not usually break down. The mass fluctu-

ates too freely for sarcoma. The skin is not drawn in, in the regular way characteristic of subcutaneous lipoma. If possible the removal of tubercular glands should be done entire, without rupture of its capsule. The great object to be kept in view is the avoidance of sinuses and the formation of ugly cicatrices which are characteristic of long continued suppuration. Often where tubercular suppuration exists the pus is sterile as regards other organisms.

Case 5. Tuberculosis of a Phalanx.—About one week ago you saw an X-ray photograph of this child's hand. Since then it has been operated upon. The affected part was cut down upon, the point of disease was gouged out with this very fine curette, made for operating on the mastoid cells, especially that part where the epiphysis and the bone were growing; after thorough removal the parts were brought together and sewn without drainage.

We can now note that the part is not particularly smaller than it was, but it has a different color. Longitudinal wrinkles can be seen and it is no longer tense as it was, and there is now no inflammation in the bone at all. It is necessary that these cases should wear a splint for a long time to insure complete rest. The X-ray showed us that the disease was in the head of the bone, about one-sixteenth of an inch from the joint, and it is easy to understand how readily the disease, if let alone, could have gone through into the joint. In the beginning of the disease upon section of the bone one sees a yellowish-white or pure yellow mass lying in the spongy tissue, made up of miliary tubercles, some of which have gone on to cheesy degeneration. The way this infection occurs is seen in the so-called "white swelling" of the knee joint. This usually results from infection by the opening of a primary nodule from the bone into the joint. In the very young the femur is most often the starting point, next the tibia and then the synovial membrane. The older the patient the greater liability is there that the synovial membrane will be the starting point, because the growth of bones becomes less active then. As the disease advances the articular cartilage becomes attacked, ulceration takes place, and the disease so works its way through and breaks into the joint and so is formed a "white swelling" of the knee-joint with a tubercular synovitis. In some instances the process starts in the lower end of the femur but not always except in the very young. When there are early symptoms of knee trouble you should suspect the head of the tibia of being involved. In all these cases an X-ray photograph would be of great service, enabling you to find the location of the disease in the tibia and so permit you to curette the disease at once and so obtain splendid results. Good results sometimes follow the rubbing iodoform into the head of the bone or the injection of iodoform suspended in glycerine (10 per cent.) directly into the disease area by means of a syringe. In operations upon long bones, as in this child, one should bear in mind the danger from hemorrhage. I have seen death occur in a perfectly healthy man from an operation for reducing a fracture complicated with a dislocation of the head of the humerus; the fracture was through the anatomical neck. On account of the amount of bone broken off and dislocated correction of the deformity could not take place without an operation. The joint was enormously swollen. The spongy portion of the bone bled so constantly that in the course of twenty-four hours the man died; the bleeding was from the veins and oozed continually. In regard to the ques-

tion of stopping bleeding from long bones it is absolutely easy if one is prepared for it. Among a few things that might be used is a sort of wax which sculptors use for modelling; as this is poisonous it should not be used. To Victor Horsley we give credit for discovering the use of beeswax for controlling hemorrhage in bones; the formula is* beeswax one part, almond oil seven parts; salicylic acid one per cent. may be added to render the wax antiseptic; when placed in warm water the wax is made cohesive and does not shrink and this can be pushed in and so occlude the bleeding vessel; the wax is sometimes absorbed in about a week. That it is absorbed at the end of a week has been noticed in operations for cerebral tumor where opening up the scalp and incising the bones of skull and filling in with wax has been done at the first setting, and at the end of a week the wound re-opened for secondary operation. In these cases the wax has been seen to have been absorbed. One should never be afraid of bleeding from bones if they are properly prepared with this wax. If a large cavity is left in the bone after the removal of the tubercular disease decalcified bone may be used; this is prepared in the following manner: The compact layer of a bone is used, from which all periosteum and medullary tissue is removed; divide this into longitudinal strips about one-eighth of an inch wide and immerse in a watery solution of hydrochloric acid (10-15 per cent.) this should be renewed for one or two weeks daily; then wash thoroughly in water, cut into small chips, soak two days in a 1-1000 bichloride solution, and store it in a solution of iodoform in ether. Other methods are replacing the button of bone removed, inserting catgut rolled up into a sponge, and the aseptic blood clot as proposed by Schede; the blood clot protects the edges of the wound and forms a scaffolding on which new blood vessels may form.

Case 6. Congenital Dislocation of the Hip.—For a long time nobody noticed that there was anything wrong with this boy, then his parents noticed that he did not learn to walk. You see that the limb is rotated outwards and abducted and seems to be shrunken. Motion is perfectly free and there is no spasm of the muscles as we flex the thigh, which shows that there is no soreness in the joint; this excludes hip-joint disease and fresh dislocation of that joint. The question now is, what have we? It is not a fresh dislocation upon the dorsum, nor is it a fracture; there is no pain or tenderness, there is no history of injury at any time in the child's life. This is a congenital dislocation of the hip and here I can feel the head of the bone perfectly well dislocated almost down to the obturator foramen.

This case belong to Dr. Lloyd's service and it is only through his courtesy that I am showing it to you. He is preparing to have an X-ray photograph taken, and later you will be able to verify the results of the examination which those of you who wish to may now make.

MEDICAL CLINIC.

BY GEORGE L. PEABODY, M.D.,

Member Academy of Medicine; Practitioner's Society;
Medical and Surgical Society; Visiting Physician
New York and Roosevelt Hospitals.

Case 1. Syphilitic Hepatitis; Ascites; Jaundice.—This man is an Italian, thirty-two years of age and un-

*This formula is given wrong in several books, and probably accounts for the poor quality of "antiseptic wax" often prepared.

married. He was admitted to the New York Hospital, September 25. His family history is negative. He had a chancre five years ago, but previous to this and subsequently the history gained is not clear. He has been a hard drinker for twenty years, consuming wine and beer chiefly. About one year ago he became very weak and often vomited, but never vomited blood. About the first of January his abdomen increased in size and has continued to grow larger since. Previous to this there was no dyspnoea or oedema. He has always had a little tendency to nosebleed; sometimes epistaxis occurred every day. There were no urinary features. During the past four months he has been somewhat jaundiced. His appetite is good and his bowels are regular. His chief complaint is the distension of his abdomen. His temperature and respirations are normal and pulse 92. Upon admission he was poorly nourished, and he had sunken eyes, with the hepatic facies. There was jaundice of the skin and conjunctiva, a little more marked than now. The tongue was moist, coated in the middle and red on the edges. The body was covered with pigmented areas and small scabs. Not to take up too much of your time I will say that we have evidences of a small amount of fluid in both pleural cavities. The liver dullness began in the fourth space and extended three and a half inches below the free border. The spleen can be felt three inches below the free border of the ribs. The superficial veins are prominent. The extremities show lesions of tertiary syphilis; there is also some oedema there. Over the inner aspect of the left tibia I find a distinct hard thickening of that bone, accompanied by pain—a periostitis. There is some swelling of the long bones, notably the ends of the tibia and fibula above the ankle joint on the right side. The end of the tibia is swollen on the left side. I find, also, on the left hand a soft fluctuating swelling which has opened and discharged a semi-fluid material and which left a false point of motion at the metacarpal bone; this was probably a gumma which has almost entirely disappeared under mixed treatment.

The abdomen is distended. The question now is what is the cause of the swelling. From the history we would say that the fluid was in the peritoneum; how do we know it is not fat in the abdominal wall that causes this distension? We can prove that it is not fat by simple inspection. We never get fat in the abdominal wall of such dimensions with a protuberant umbilicus. The umbilicus is always retracted and forms a deep hole there because the tissues are tense. Fluid pushes out the umbilicus; fat never does. Also, notice the enormous pigmented spots and scabs; these are due to excoriations produced by scratching, caused by the itching. There are no pediculi. Itching of the skin may sometimes occur in cirrhosis of the liver; it is not due to the distension because it is not a common symptom in accumulation of fluid in the abdomen. I suppose it is a neurotic disturbance accounted for in the same way that jaundice produces itching of the skin. We have as an evidence of disturbance of portal circulation this condition in the abdomen. When fluid accumulates in the abdomen it is very likely to be due to a disturbance of the portal circulation. We have two very common causative factors in cases of cirrhosis of the liver, namely, alcohol and syphilis. The question now arises as to which of these two causative factors is the cause of the disease. It is, of course, very important to know from the point of view of prognosis and treatment. If it is an alcoholic cirrhosis the prognosis is bad and the treatment is symptomatic. If it is due to syphilis the

prognosis is better and the treatment entirely different. Now, syphilitic hepatitis is a disease that occurs in two forms; we may get a diffuse interstitial hepatitis which does not differ in its symptoms from the ordinary alcoholic hepatitis. We may, on the other hand, get a large syphilitic gummata on the surface of the liver producing serious symptoms and most amenable to treatment. This man has been tapped on two previous occasions. The distinct depression with rigid like periphery felt near the lower border of the liver suggests some cicatricial tissue of a gumma and so justifies the inference that it is a syphilitic lesion. He has not had symptoms of portal obstruction as suspected from disturbances of the bowels. In syphilitic disease one rather expects to find patients with good appetites and less disturbances of circulation than is found in alcoholic cirrhosis. This man's appetite is good, and there are no gastric symptoms of consequence at all. He has no diarrhoea, nor has he any marked bowel symptoms. But he has an abdominal distension which troubles him much; it gives him pain and interferes with his respirations; so I have decided to tap him in order to relieve these symptoms. Before tapping this man we should first learn if he has fluid. In the dorsal position the flanks are dull while the umbilical and epigastric regions are tympanitic when percussed. The area of resonance may have an oval outline. When the patient turns on the opposite side, the fluid will gravitate to the dependent part and the uppermost flank is now tympanitic. On percussion you all can both feel and see the fluid wave; there is a distinct vibration. So there is no question about our having to deal with fluid in the abdominal cavity.

In tapping we should select a place between the symphysis pubes and the umbilicus. Before making a puncture we should know that the bladder has been emptied. The next matter of importance relates to cleanliness. Long before the days of antiseptics I used to tap the abdominal cavity frequently; I kept the skin clean and I never saw infection follow when the ordinary measures of cleanliness were observed. Do not use a very small needle. Use the trocar and canula and you will then permit the fluid to flow out freely; in some instances the patient feels very lax and so he is sometimes bound tightly with a binder; in this man we will use a many-tailed bandage, although I do not think that there is much benefit to be derived from the use of a many-tailed bandage and, as a rule, I do not use it. I give support by the use of the ordinary binder. The skin of the abdomen is very sensitive, so we will now use a little cocaine; this should always be used in sensitive patients. A skin incision is made in the median line with the scalpel. One-half an inch incision is long enough. Then take the trocar and canula in the right hand, grasping it firmly, and measure off the distance that you wish to puncture, and drive it in; do not enter slowly. Protect it by the thumb and so make an artificial hilt, and then push it in quickly. The pain in these operations is very trivial.

(Twenty minutes later.) In dressing this wound I simply use a piece of iodoform gauze and adhesive plaster; any leakage that takes place will do no harm. Now, please notice the difference in the size of this man's abdomen. His pulse is excellent. He is not at all damaged by the severity of our work. I can now easily feel the free edge of the liver on a level with the umbilicus. The surface of this organ is perfectly smooth; there is a depression near the free border of the liver which has certainly diminished in size. He has been under the

mixed treatment with inunctions and iodides internally. This is a case of cirrhosis, probably alcoholic, with possibly a gumma on the surface of the liver, appearing in a patient suffering from syphilis in the tertiary stage. To-day the waist measurement was 40½ inches; it is now 30 inches. Fourteen quarts of fluid has been taken away to-day.

(One week later.) Before tapping this man last week he measured 40½ inches; after tapping, he measured 30 inches. That night he slept well, over five hours, under the administration of chloralamid. The abdomen increased in size, so that the next day it measured 33½ inches and it is steadily increasing, the fluid rapidly accumulating. It now measures 34½ inches. Twenty-four ounces of urine is passed daily. His bowels are free. On account of the syphilitic history he is getting iodide of potassium.

(Two weeks later.) The Italian whom we tapped three weeks ago did well. He had well developed syphilis showing itself in a periostitis and superficial gummata. He had ascites with a large liver and, apparently, gummata on the surface of the liver. Under the mixed treatment the gummata on the surface of the liver became less. After tapping he improved, no longer suffering from the pressure effects in the abdomen. He was up and went home on Thanksgiving day. He returned, but two days ago he eloped.

Case 2. Senile Gangrene.—This man is a carpenter, a native of the United States, and is seventy years of age. He entered the hospital on the 6th of November. He says he always enjoyed good health. He gives no syphilitic history. He continued at his work until one year ago. He gives no symptoms of diabetes, nor drug habits; he is a moderate drinker. One week before admission, while at work planing a piece of wood, working hard, he first began to have pain in the right foot and there was a sensation of numbness in the toe. The pain gradually extended up the leg and is now near the knee. The lower extremity is mottled. His chief complaint is pain with numbness of the foot. The pulse, temperature and respirations are substantially normal. The heart apex is in the fifth intercostal space 3½ inches from the median line. Its action is regular in force and frequency. There are no murmurs. The pulse is regular with a small increase in tension. The superficial arteries, as the radial and temporal, are thickened. The abdomen is soft and relaxed. The right foot is cold, bluish, with veins dilated. There is tenderness over the calf and some anaesthesia over the toes. There are areas of excoriations over the lower aspect of the leg. He came to us on the 6th of November and has been in the hospital two weeks. His pain has been only in the right lower extremity, particularly in the foot and lower part of the leg. He has had almost no complete relief at any time in spite of the fact that various local and general means have been addressed to the pain. A varying position of the foot seems at times to make it easier. Applications of dry heat have not contributed any relief whatever. Baths have given him but temporary relief. The administration of various narcotics and hypnotics, trional, chloral, antipyrin, etc., give but little relief. Morphine in ¼ grain doses has practically given no relief. Codein, one grain every three hours, has not afforded him any relief. He has had given him morphine, ¼ of a grain, at night; this has been followed by about three hours' sleep. Now, what is the condition we have here to deal with? The least touch to his foot is painful. There is no swelling. It is reddish-blue in color and it shows an excoriation above the ankle, the

result of the application of some ointment. There is no pulsation to be felt. There is a distinct elevation of arterial tension; he has an arterio-sclerosis. We, therefore, have one of the common causes of arrest of circulation in the arterial system. We believe there is an interference with the circulation in the popliteal artery; pulsations can be felt above but not below the popliteal artery. Anæsthesia is confined to the toes. The skin is cool. The discoloration is deepening day after day.

This is a beginning senile gangrene and there is nothing we can do to arrest it but to keep the limb under observation; we must stand by and watch with hands folded, unable to give him relief. We cannot establish the circulation, nor can we remove the obstruction. There is probably a thrombosis, possibly an embolus. The thrombus probably occludes the popliteal artery and there is now no circulation of blood in it. Although there is a great deal of pain we have been able to give him only temporary relief.

(One week later.) This man with gangrene of the foot from an arterio-sclerosis has suffered intense pain, which is only temporarily relieved by the use of morphine, 1-12 of a grain being given every four hours; at night he has had a hypodermic of morphine, Magendie's solution, eight minims; he gets but little relief from this. He gets a few hours' sleep, yet his local condition is getting rapidly worse. The foot is much mottled and the epidermis shows no reparative power. Rubbing the foot with certain ointments, bathing it, applications of a weak solution of opium (three drachms of tincture of opium to the ounce of water) give but temporary relief. The pulsations are absent from the popliteal artery and the only relief that I can see for him is amputation at the knee-joint, or higher, depending upon the evidences of arterial obstruction. Dr. Weir has reached the same conclusion. The line of demarkation shows pretty well. If septic symptoms develop he will be operated upon by Dr. Robert F. Weir. His fever has been continuous and now shows rapid fluctuations which look like a beginning septic condition. Before he came to us it was rarely above normal. During the first week it was 99 or 100 degrees; during the second week it was practically the same. But during the last few days it has the character showing a septic condition; it runs from 100° to 101° and it shows no tendency to drop; if this continues we will have to do an amputation.

(Two weeks later.) The case shown you two weeks ago has been transferred to another sphere. The gangrene limited itself one-third the way down between the knee and ankle-joint. In consequence of the limitation of the gangrene and the fact that the fever became high we felt that we were justified in performing an amputation of the leg. On the 28th of November, Dr. Robert F. Weir amputated the thigh at its lower third. The popliteal artery was hard, cord-like, non-pulsating. The patient did not do well. The only symptom that was modified was the pain in the foot. He did have a great deal of pain after the operation in the flaps so that large doses of morphine again had to be given to relieve him; one-half a grain would not give him relief. The flaps sloughed. The fever became higher and he died the fourth day after the operation. The autopsy showed a condition of the arteries such as you see here. This mass of tissue is the popliteal artery and it was entirely blocked by the formation of a fibrous clot. The artery was much thickened. There were many calcareous plates. Smaller arteries below showed marked advanced stages in that the clots themselves were entirely decolorized and under-

going degeneration. The smaller arteries were the seat of degeneration.

Case 3. Chronic Gout.—This next patient is 49 years of age, married, and a native of the United States. He was admitted to New York Hospital on November 14. He has had scarlet fever and typhoid fever. Ten years ago he first noticed that he had pain, redness and swelling in his left great toe. He had suffered subsequent attacks in the same toe. He has had similar pains in the right heel, and, subsequently, in both elbows and the small bones of the fingers of both hands and in the right carpus. For about nine years he has had large lumps about the joints of his fingers and elbows and right carpus. Three years ago the middle finger of his right hand broke down. Several years ago he had lead poisoning with the wrist drop and concomitant symptoms; he was a printer and so exposed to the handling of lead; here we can look to his profession for a cause of his poisoning. He has had no gonorrhœa for three years. Thirty years ago he had a chancre. He has some dyspnoea on exertion. During the past ten weeks he has had more or less heart symptoms. He has no œdema or headaches, ringing or other ear symptoms. He drinks about two glasses of beer each day.

His present history shows that he has had during the past two or three days constant pain in the cardiac region. While away from the hospital the pain in the region of the heart spread over the liver, and he has a distinct fear of death. Dizziness followed and then he became unconscious. All this happened in the street. The ambulance was sent for. When he was brought into the hospital it was found that there was some loss of power in both legs and cramps in his calves. His appetite was good. His bowels were constipated. His chief complaint was the headache. He was well nourished. The tongue was moist and coated. Nodules were found in both ears. The apex beat was in the fifth space with pulsation in the epigastrium. The pulse was regular, small and feeble. There was slight œdema of the feet and legs. The urine had a specific gravity of 1013, was acid in reaction, clear, contained albumin but no sugar, and showed numerous casts.

His treatment consisted of rest in bed with hot pack. Salicylic acid was painted on the fingers and iodine was painted over the swellings. He slept fairly well, but in consequence of the pain developing in this left finger he has been given amylene hydrate. These tumors are freely movable. In the regions where he has had the most pain—the great toe joint, etc.—there are no swellings. These joints are apparently normal in spite of the frequent attacks of gout. There is some thickening of the radial artery. So, we have to deal with an individual who is suffering from arterio-sclerosis and who has a hypertrophy of the left ventricle. He has an increased aortic sound. He also has a chronic nephritis, largely interstitial, with an abundance of urine and hyaline casts. He, too, has chronic gout with deformities. He has had attacks of angina pectoris, well pronounced, the result of an arterio-sclerosis in the coronary arteries. It started with his attack of chronic lead poisoning. Lead is a common cause of arterio-sclerosis. He has not been a high liver, nor has he taken more beer than the average man. Do not look for blue line on the gums in these chronic cases of lead poisoning; they are not always present.

The treatment of this case resolves itself into the treatment of the arterio-sclerosis. We cannot treat the chronic gout; but the acute attack we can treat locally. For the short time he is to be in this hospital I would

rather not treat the gout routinely, but rather direct attention to his arterio-sclerosis and the local manifestations, by hot packs, purging and sweating. If his painful joints do not subside under the salicylic treatment then, of course, we will give the treatment by colchicum. (One week later.) All the symptoms subsided under the administration of colchicum wine, ten minims given after meals; he is now able to sit up in bed.

OBITUARY.

DR. EDGAR A. GRAFTON, of Montreal, was drowned in the St. Lawrence river, while bathing, July 29. Dr. Grafton was a son of Mr. F. E. Grafton of Montreal, where he was born thirty-three years ago. He graduated with high honors from McGill University in 1891, after which he took the degree of L. S. A. in England. One year was spent as surgeon to the S. S. "Lake Ontario," after which he served his term in the Metropolitan Hospital, New York. He was also for one year connected with the Montreal General Hospital. Dr. Grafton was an enthusiastic and most faithful worker in his profession. All who came in contact with him will vouch for the kindness and gentleness with which he did most conscientious work. Personally we have lost a firm friend, to whom we were bound by strong ties of friendship. His parents in their grief have much to be thankful for in having been blessed by such a son. It is sad to see such men as Dr. Grafton leave this sphere, where they are so much needed. We can only offer our condolence to his bereaved family.

MISCELLANY.

—Mrs. Frederick Elliot Lewis is erecting, on Staten Island, a new hospital for the St. John's Guild, in memory of her son.

—Always disinfect your moustache before kissing your—wife. At the left hand side of the bar you will find coffee and cloves for this purpose.

—An anonymous benefactor is about to erect a new building in connection with the Presbyterian Hospital for the accommodation of the nurses and house staff.

—General Wilson, the Military Governor of Matanzas and Santa Clara, Cuba, says that Tetanus is universal in Cuba. A wound in the foot of human beings or of an animal is almost sure to result in lock-jaw.

—Since the discovery of a typhus bacillus fatal to mice, pussy has been dropped from the German military establishment, and no longer enjoys her old allowance of \$4.50 per annum for food, medical care, training and badges.

—Early to bed and early to rise does very well with preachers and guys, but makes a man miss all the fun till he dies and joins the old stiff that are up in the skies. Go to bed when you please, and lie at your ease, and you'll die just the same from a Latin disease.

—A lady M. D., appointed, under the civil service, physician to the infirmary at Dunning, Ill., has been dismissed by the county board, one of the reasons for such action being that she refused to go down to the wards

at night to visit the sick "because she had her hair done up in curl papers."

—A French journal states that there are no fewer than twenty-five medical men of various ranks and titles attached to the Russian court. Of ophthalmologists there are two, and other specialists abound in proportion. In addition to this goodly array there are a chiropodist-in-ordinary and an honorary chiropodist.

—According to a writer in the *Cycle et Automobile Industriels*, it appears that when the remains of fishes are distilled under pressure, an oil having a strong resemblance to petroleum is produced. This would seem to show that petroleum, instead of being derived from rocks, as the name implies, is really a fish-oil.

—The consumption of whiskey during the year 1898 was the highest ever reached in the United Kingdom, being more than a gallon a head for every man, woman, and child. Compared with 1878, there has been an increase in deaths from chronic alcoholism of 82½ per cent. among men and of 145½ per cent. among women.

—In a paper read before the Society for the Promotion of Health, pure sand is recommended to dyspeptics. "What we all need," says the writer, "is grit—the real grit that is furnished by silica in the sand. The presence of the grit will assist in the grinding process, and our food, instead of distressing, will nourish and cheer us. Six five-grain capsules of pure sand should be taken with each meal."

—Notwithstanding the density of our population, the statistics regarding blindness are now far more favorable in the city than in the rural districts. According to the last census, there was, in the counties of New York and Kings, one blind person to every 2,500 of the population, while in the five rural counties of Allegany, Clinton, Otsego, Madison and Schuyler there is 1 blind person for each 650 of the population.

—Plaster of Paris bandages are very easily removed by the following simple method: Soak some cotton wool in peroxide of hydrogen, then moisten the splint down its full length with this, for about half an inch wide. When it is thoroughly soaked the plaster will be found in the same condition as when first put on, and the bandages have only to be cut with a pair of scissors, without any injury to the patient or any trouble whatever.

—That wonderful "anti-alcoholic serum," or "anti-ethyline," just discovered by M. Broca and colleagues, produces, it appears, a positive distaste in the drunkard for brandy, rum, or absinthe, while his liking for wine is not interfered with. The compromise thus indicated, on the part of the microbes concerned—though scientifically inconceivable—must be regarded from a business view-point as wise and patriotic, wine-making being so important an industry in La Belle France, and the agricultural interest so powerful in her politics.

—Miss Ward writes from Brazil that the whole country is perpetually in a state of semi-intoxication from coffee—men, women and children alike, and to babies in arms it is fed from a spoon. It is brought to your bedside the instant you are awake in the morning and just before you are expected to drop off in sleep at night, at meals and between meals. The effect is plainly apparent in trembling hands, twitching eyelids, mummy-hued skin, and a chronic state of excitability worse than that produced by whiskey.

ORIGINAL ARTICLES.

TREATMENT OF INSANITY IN GENERAL PRACTICE.

BY L. L. UHLS, M.D., PAOLA, KAN.

INSANE patients are hurried off to asylums more than ever before, and this practice will continue and even grow, from the fact that we have learned that the sooner an insane patient can be placed under the routine of hospital rules, the better the prospect of recovery. And yet it is well for us to know all we can on this subject, for once in a while we will be called upon to prescribe for these unfortunate patients and we do not want to be called ignorant on this subject. There are at present about 2,500 insane people in our State; there are about 2,000 of them in our asylums, so that leaves about 500 for us to treat in general practice. They are scattered all over the State, and any of us may be called to prescribe for one of them at any time, so that possibly it will be profitable for us to devote a few minutes to this subject at this time.

There are so many varieties of insanity that it would be wise at this time to speak of but a few of them. It is unfortunate that we have no universally accepted classification, and that while many writers are given to criticizing those who are adding to the list, they are themselves quite willing to add a new one now and then. I will speak only of those forms which I think we will have most to do with in general practice, viz., monomania or paranoia, mania, melancholia, paresis, dementia, and epileptic insanity.

Monomania or Paranoia. Monomania or paranoia evidently belongs to the class of chronic insanity, from the fact that there does not appear to be a marked or even a perceptible acute stage. I might say here that while there is no fixed rule for saying just when a given case may be called chronic, yet custom has decided that a case lasting more than a year shall be called chronic. There is in monomania always a history of mental or moral degeneration and a gradual change in the character, affections, and passions, and, sooner or later, there are clearly defined delusions which influence the life of the patient. As usual here, we nearly always have an inherited predisposition to insanity or it may be an unstable mental diathesis out of which the disorder grows. In very many of these cases these patients are the offspring of neurotic or intemperate parents. They are eccentric, indolent, reserved, suspicious, conceited and vain. They dress strangely, and their main desire seems to be to attract attention. Their egotism is intense. As a case progresses fixed delusions appear. The individual places a high estimate upon his capabilities, and desires to assume power and control. He is often a self-constituted reformer, and just here the trouble begins. He often thinks it necessary to do some act of violence in order to get rid of some one who is in the way of reform. And while we can't say much about the treatment in these cases, just here is where the doctor will probably be called on for advice, and it would be well for him to know that the best course for him to pursue is to look well after the general health, and as soon as his patient becomes a nuisance and dangerous, the doctor will be called on to tell the friends what to do, and his word will probably be taken and acted upon. We may as well prepare for the inevitable. Your patient will go from bad to worse, and should be taken to an institution where he can be subjected to discipline and made comfortable. Treatment is always unsatisfactory. The delusion will last

to the end and constantly grow worse. He will die insane.

Mania.—Mania is that condition characterized by an abnormal exaltation and activity of the mental functions, i. e.: The intellectual faculties, the emotions, and the will, and shows itself by irrational talking and acting; by delusion, illusion and hallucination, and by unusual muscular activity. When the friends of the unfortunate victim of mania find out his real condition they will usually hurry him off to an asylum so quickly that the family physician will not get a chance to see much of the case. While these are not always the most unpromising cases, and, in fact, usually they are not, yet they are the ones that excite the most apprehension on the part of the friends, and they will be hurried away. When you are called to see such a case, get as much of the history as possible with respect to his former intelligence, his everyday life, his accustomed occupation, his family, his normal and usual manner of acting, and whether or not there is a hereditary history. In acute and subacute mania, there is usually a history of physical or mental overwork, or both, carried on without sufficient rest, and often there is a history of reverses or possibly successes, or a profound moral shock, which may be caused by loss of property or friends, from disappointment, from the exhaustion attending the puerperal condition or alcoholic or sexual excesses, all of which operate directly or indirectly to impair the normal standard of health, or cause loss of sleep, and to produce a functional irritability of the brain.

Not often will you meet with a case of mania that has not been preceded by some symptom of depression, and as a rule this form of mental disease does not come "all at once," as we so often hear, for there is prodromal stage, and a careful inquiry will reveal that some disturbance of the physical health or some moral shock has been received, producing a profound depressing influence upon a person possessed of a neurotic temperament or heredity. If a man, he may not give up business entirely, but business matters will soon be neglected, and become a source of perplexity. If the case be that of a woman, she will probably become emotional and possibly hysterical. The family physician will be called upon to decide as to what to do. And the question naturally comes up, shall he be sent at once to an asylum, or will it be best to try to keep him at home for a time? The decision should depend upon a willingness to submit absolutely to such rational treatment and advice as the physician may direct, and until sufficient time has elapsed to determine whether improvement is to take place, and whether other and more serious symptoms are to appear. If the threatening symptoms abate, it would then seem to be advisable that some change of environment, and rest from business be enjoined, and all measures to promote sleep and complete restoration of physical health should be followed, and systematically followed. One great thing of importance is to place him in care of a companion possessed of common sense, firmness, and mildness, and I might say, plenty of muscle, but tact is better than muscle in such cases; also give a course of tonics, and generous living. These will be very useful in the earlier stages of this disease. Now, during a period of incubation lasting for two or three months, marked changes may be expected, and if by this time the symptoms do not abate, but the patient enters upon an advanced stage of the disease, during which the symptoms of maniacal disturbances are pronounced, the case is not favorable for treatment at home, such a case should be sent to an asylum without further delay.

To be a little more definite about the treatment of mania. It must be moral as well as therapeutical. The moral treatment embraces all that concerns the environment, the personal attendants, the room, the discipline—for the insane are amenable to discipline—but this does not imply punishment. All furniture not absolutely required should be removed from the room, as well as all articles that could be used as weapons. Then an attendant should be selected with care and he should give his entire time and thought as nearly as possible to his patient. After a case of mania has become well developed, the friends might as well be resigned to the fact that the disease will run a course of from three to six months, under the most favorable conditions, and during the whole of this time he will require medical aid, watchful nursing, and supervision by day and by night. It must be remembered that your patient is below the normal standard; that he is insomniac; that a constant tissue waste is going on; that the bodily functions are disordered; that the brain is anemic or hyperemic; the quality of blood deficient in its normal constituents, and the nervous system in a state of irritability. The patient needs plenty of food, which may be given freely at meal times and at other times; it is hardly probable that he will eat too much. He needs sleep and fresh air, and if his strength will permit, he should have outdoor exercise. The attendant should see to it that his patient conforms to his usual habits as to rising, dressing, taking food, bathing, walking, exercise and removal of clothing at night, and if force must be used, see to it that there is help enough that a serious struggle may be avoided. When we come to the medical treatment, we must remember that much of the nervous irritability noticed is due to a defective state of the nutrition, and tonics and iron should be administered for a long time; we will often find that the state of the circulation shows that the heart needs support, and stimulants, digitalis and strychnine, are indicated; attention should early be given to the state of the bowels and kidneys; usually there is constipation, and the urine is scanty and ammoniacal. Before these matters are attended to nutrition will not fairly begin. Just here a dose or doses of calomel will do much good. One of the most embarrassing symptoms to overcome is insomnia. This insomnia is due to nervous irritability; to the strong excitement of the feelings from delusions and hallucinations, and a motor disturbance of the peripheral nerves. Functional activity of the brain will cause an excessive flow of blood to that organ which is not removed by the veins in a state of nervous exhaustion, and stasis and engorgement result. Sleep, here, is of the utmost importance, and must be promoted by medicines, and otherwise. The hot bath will serve an excellent purpose, for the well-known reason that prolonged warmth, applied to the whole body, will dilate the capillary vessels and improve generally the circulation.

Now, as to medicines, we consider opium the most certain and powerful of narcotics, but its administration is not on the whole satisfactory in mental cases. The resulting constipation is objectionable; but probably the greatest objection to the use of opium is the resulting capillary congestion that follows the narcotism, and, as before stated, this is one of the things we will be anxious to overcome. Sulfonal or sodium bromide and tincture of hyoscyamus in combination will often be satisfactory. If the vessels are full and the face flushed and turgid the fluid extract of ergot is a good remedy, and may be given in doses of thirty or forty minims three or four times a day. I have been well pleased

with the use of hydrobromate of hyoscin one one-hundredth hypodermically at bedtime. It is a most powerful drug, and it is well to begin with a smaller dose and then increase carefully, till we sometimes give one-sixtieth grain. Good authorities say that sulfonal will produce sleep in about eighty per cent. of cases and that usually there are no disagreeable after-effects. As a rule, insane persons should be given medicine in a liquid form for obvious reasons.

To sum up the treatment of mania, I believe, with Chapin, "That in the general management and treatment of mania in the acute state the indications are to sustain the strength of the patient and repair the waste that goes on rapidly, rather than to place the chief reliance upon medication."

There can be no doubting the fact that this can be done more satisfactorily in a hospital for the insane where the regularity of daily life tends to establish orderly habits of living and to develop self-control and the abatement of paroxysms of excitement.

Melancholia.—Melancholia is a form of insanity characterized by prolonged and profound mental depression. This form of insanity is often confounded with hypochondria, as in each case the patient is sad and gloomy; but one may be insane and the other not come under this head. The depression of the melancholiac is mainly mental and relates to subjects having a relation to the mind of the patient, while that of the hypochondriac relates mostly to supposed bodily conditions, and may, and often does, progress to melancholia. As in mania and other forms of insanity, here we find derangement of digestion and disturbance of all bodily functions. The blood on which the nutrition of the nervous mass depends is generally impoverished, and the circulation is imperfectly performed from lack of nervous stimulus. But we also find a chain of symptoms here which are the opposite of those of mania. The patient will forsake his accustomed haunts and associates; his life literally becomes a burden to him; he complains of a weary, tired feeling, and, as a matter of fact, is tired and exhausted with very slight mental or physical labor. The gait is slow, the manner is languid, and the patient has a worn, exhausted appearance. He often complains of headache and mental confusion. This condition often exists a long time before either the patient or his friends become alarmed at his condition. Probably the first time the attention of the physician is called to the case, he will find him depressed and dejected in a way that cannot be explained; there is a vague fear of some impending trouble; he imagines all sorts of things will happen to him, and he seems to comprehend his condition, but he is unable to throw off the gloom that depresses him; life seems a burden to him; he reproaches himself for his past misdeeds and failures, and indulges in retrospective forebodings generally. His ordinary duties are burdensome. He magnifies all his troubles and has many imaginary ones. He will probably furnish a good history of his troubles, and reason deliberately and well about his condition. His judgment may not be impaired enough to form clearly defined delusions, but if not averted this condition will go on till judgment and reason are abated and this simple melancholia will result in melancholia with delusion and agitation, with fixed delusion and a distressing condition of both the mental and physical power; the face will be pale and sallow, the eye will lose its accustomed expression; the appetite is poor, and food is taken very sparingly. Your patient will decide that food is not good for him, and he will refuse it altogether; often he will say it is poisoned or spoiled.

The tongue is pale and flabby; pulse is slow and soft; pupils somewhat dilated. And there will be insomnia, and in women there will be suspension of the function of menstruation; a decline in weight will almost always be found to have taken place. While your melancholiac will not show homicidal tendencies quite so frequently as in some other forms of insanity, these are cases where we must be on our guard for suicidal tendencies. Many melancholiacs will commit suicide if not carefully guarded. A patient who was under my care last year was the father of quite a family of children, and he had decided that life was not worth living, and that the best thing he could do was to kill himself; while brooding over the matter he came to the conclusion that he could not go and leave his little ones, and so he decided that he would kill them so that they could all go together.

This man recovered after six months' treatment at home, although we had planned to send him to the asylum. I did all I could to arouse the secretions, gave him tonics and a most liberal diet of good, wholesome food. This was his first attack. This man was about 45 years of age. I have recently been consulted by two other melancholy patients who have been growing worse for many months, and I have advised the treatment above mentioned. I used sulfonal for the insomnia.

We have to admit that we have no specific medical treatment for insanity, and must remember that the principal object to attain is the promotion of nutrition, and the elimination from the circulation of all toxic agencies. The methods mentioned under the subject of mania are what I would recommend.

The importance of early treatment in all cases of insanity is well known. The prospects of recovery depend much on what is done the first three months. In cases of melancholia the general practitioner will usually get a chance to treat his patient for a longer period of time than in manias and it will not always be easy for you to decide when the friends ask you to say whether or not the patient should be sent to the asylum. There are often good reasons why one such patient should be sent to the asylum while another should be kept at home. Where he is possessed of sufficient means it is often well to try change of occupation and surroundings, but most insane people are not financially able to do this and this brings us to the fact that poor people send their insane friends to the asylum early, and recoveries are most common in this class. Melancholia may terminate fatally from gradual exhaustion in a few months; it may progress to the chronic stage, and last an average period of 15 years. During this period the delusions may be less concentrated and have a wider range; hallucination, usually an unfavorable sign, may appear; self-control becomes impaired; maniacal outbreaks occur, and mental degenerations proceed until the terminal stage, dementia, is reached.

From the best information I can get I believe that at least eight per cent. of our insanity is hereditary. If this be true, and I fully believe it is, even more than this, it is time that the medical profession should make a combined effort to lessen the evils, the sufferings and the sorrows incident to heredity. If we do not do it, it will not be done; it is our duty to do it, and it will be, and ought to be expected of us. It seems to me that it can only be done by legislation, and we will have to take the lead. I mean that a strictly preventive treatment would be the very best treatment. If we could do as the farmer does when he sows his wheat or plants his corn or potatoes, that is *select his seed*; if we could do

as he does in breeding his stock, that is select the best blood, we would within the lifetime of many here be able to call in our committee who look for locations for new asylums and demand fewer such institutions instead of more.

One day last week I saw an article in one of our daily papers from Dr. Daniel R. Brower, of Chicago, one of my old teachers. He was speaking of heredity as applied to criminals, and it is good enough to repeat, for it will apply to heredity on this subject as well.

He said: "The percentage of criminals has increased so rapidly in the United States that we now have one habitual hereditary criminal in every one thousand persons. Criminals propagate and multiply unrestrained, and unless we change our laws, will continue to increase, until it is appalling to contemplate the result. If Chicago does not soon have a new code of criminal laws, then it would be wiser to have a Tarpeian Rock, like the Romans did, from which malefactors and degenerates might be thrown to death. We should have laws controlling marriage, so that degeneracy may be checked by preventing the union of criminal, diseased or lunatic couples."

Now can you agree to that? I believe that it is a sin in the sight of God for mental, moral and physical degenerates to propagate the species. We ought to begin by working for a law to regulate the marriage of persons with a known tendency to *mental degeneration*.

CIRCUMCISION; ITS MORAL AND PHYSICAL NECESSITIES AND ADVANTAGES.

BY A. W. TAYLOR, M.D., BEVERLY, N. J.

NO surgical operation of the present day can boast of so ancient a recorded history as the simple one of circumcision. It antedates the Israelitish migration, and was a matter of history when Lot fled from Sodom and his wife became a pillar of salt. It is actually 3,797 years old. The first subject operated upon was a young man of ninety-nine years, and the next his son of thirteen; after which, the fashion having been set, all the males of the neighborhood vied with one another in their haste to follow the example of the patriarch and his son, thus showing a different spirit from that of the foxes in the fable as Æsop, when one of their number had accidentally been curtailed.

The operation was first performed by divine decree, and was both a sacrament and a pledge.

History gives no light as to instruments used nor methods employed; neither is there any record of percentage of failures or successes, but as there is no report of a death upon the operating table, it is presumed that the operation was universally successful; although the same modesty which prevents us of the present day from recording our failures may have existed then.

From that time to the present the operation has been performed upon all kinds and conditions of men, savage and civilized; and with the usual generosity of the male sex when they find a good thing, it has been shared with or performed upon the "female brethren," as in many savage or semi-civilized nations or tribes the clitoris or labia have been abbreviated.

As no better physiological rules have ever been formulated than many which are found in that great and most ancient history, the Bible, it is but fair to presume that, aside from any religious foundation, this operation had its origin in sound physiological reason; and if universally adopted and faithfully adhered to would be of more benefit to the human race than was the Mosaic

Menu, as set forth in Leviticus, to the wandering Israelites.

Why the prepuce was given to man in its elongated and oftentimes constricted form is easier to answer than why the appendix vermiformis was made part of the human economy.

The early origin and the universal distribution of circumcision having been stated, the "why" of it would naturally next arise. Originally a compact between God and man, it was undoubtedly as a matter of cleanliness and prevention of disease that it was instituted.

In the early days when the first commandment, viz.: "Increase and multiply and replenish the earth," was more faithfully obeyed than those forming the decalogue have been since, there was undoubtedly a great deal of promiscuous sexual intercourse, and we have no reason to believe that it would not then, as now, quite readily result in sexual disease.

Such being the case, the elongated prepuce, constricted or not, would be a positive retainer of disease germs; and one can see how readily, in the journey from Egypt to Canaan, there might dire disaster result.

It is impossible in a brief space to more than hint at the wide diffusion of this procedure from the time of Abraham to the present day. Suffice it to say that in lands most remote and on the islands of the great ocean the operation of circumcision has been found to exist, and it alone, of all surgical operations, can trace its history back nearly forty centuries. At the present day the Jews still observe it as a religious rite, and in at least one of our large cities near the Atlantic coast they have perpetuated its religious significance by erecting a tower, to one of their houses of worship, in the shape of the circumcised male generative organ; an architectural display with which, it is said, the civil law would not interfere.

As physicians, it is with its moral and physical bearing that we deal. The extent of the constriction or of the elongation of the prepuce may modify its effect upon the system; the elongation may be excessive and the constriction may even amount to a closure of the preputial orifice. The ill results of this condition depend upon the irritation caused by the confined secretion of the glands back of the corona (the glands of Tyson), and upon the adhesion of the preputial mucous membrane to the glands; a third condition may also exist, viz.: a completely closed orifice, preventing the flow of the urine and causing a ballooning of the prepuce; or a less complete closure may cause a retention of a portion of the urine and a deposit of urinary salts, which may eventually result in concretions or preputial calculi.

These conditions all tend to produce trouble by the same route, viz.: The setting up of an inflammatory irritation of the prepuce or glans, or both, and the results due to it. Such a state of affairs is more likely to exist in infancy than in adult life, for as the boy grows in stature and physical function the penis grows in length faster than does the prepuce or the general cuticular covering of the organ, thus comparatively shortening the prepuce, and this, together with the frequent nocturnal congestion, breaks up the feebleness of the adhesions, so that not all cases of congenital or inflammatory adhesion are continued to adult life. It does, however, contribute much to the comfort of the individual, both during infancy and adolescence, if the elongated prepuce is removed and the constriction with it.

The necessity of circumcision is thus shown (among other causes) to arise from the inability to freely urinate; from inflammation due to confined secretions and

retained urine or some of the urinary salts, and to the reflex irritation produced by the phimosis. It is not necessary that the constriction be either close, nor complete, nor that the prepuce be abnormally long to produce intense nervous symptoms of a convulsive or paralytic character; these symptoms can be caused by inflammatory adhesion when the foreskin is neither long nor its orifice constricted.

The penis being freely supplied with lymphatics, blood vessels, and nerves, makes it exceedingly sensitive to mental or local irritation, and, also, the position or condition being reversed, makes it very easily a point from which irritative effects may quickly attack the nervous system and in other ways quickly disturb the harmony of the whole; through the pudic nerve this part quickly communicates with the spinal cord and the muscles about the hip.

The discomforts, disadvantages, and distress that may arise from phimosis can be no more clearly shown than by quoting from White and Martin's work on "Genito-Urinary and Venereal Disease," in which they say: "The complications of phimosis are balanitis, balanoposthitis, adhesions, venereal warts, fissures, subpreputial calculi, retained secretions, irritability of the bladder, hemorrhoids, herniæ, and dilatation of the bladder, of the ureters, and kidney pelvis, retention or incontinence of urine, arrested development of penis, premature sexual excitement, seminal weakness, spastic palsies, simulated hip-joint disease, muscular inco-ordination convulsions." To this list might also be added masturbation and at times some forms of mental disorder. Surely a most formidable list. Sufficient almost to make us resolve that in order to avoid all such possible evils we will do as did the first man circumcised, of whom history says, Genesis, 17: 26-27: "In the self-same day was Abraham circumcised and Ishmael his son, and all the men of his house born in the house and bought with the money of the stranger, were circumcised with him."

Domestic infelicity is, I believe, often caused by an existing, and not understood, phimosis interfering with the proper performance of the marital functions. A case of this kind has come under my observation, and I believe an examination and circumcision of the husband would often do more toward producing domestic harmony than the disgusting and prolonged divorce suits which drag their slimy length through our courts.

I further believe that such an examination, and if need be, operation, should be made in the case of a candidate for matrimony. This belief I have already put into practice, thereby promoting domestic bliss where otherwise discord would have ruled.

The reflexes, which we find not only among babes and youths, but men as well, are so many and varied that in all obscure cases of this character we should examine the glans penis and its covering for a possible active or contributing cause.

It is said that a lady of Brooklyn, sad-hearted, anemic in body and distressed in mind, once visited the renowned Dr. Talmage to seek from him advice as to what she should do to be saved. The reverend doctor patiently and sympathetically listened to her statements, and then kindly advised her to consult a physician, as he believed her trouble lay with her liver and not her soul.

I believe that there are many cases of mental depression and moral disturbances with men where the cause of the trouble lies in the glans penis, and that a sharp bistoury and a few stitches would roll off a burden of sorrow and sin as quickly as Bunyan eventually lost his.

As a means of retaining syphilitic poison an elongated and constricted foreskin is an active factor.

I may be pardoned for reciting a case or two which have occurred in my own practice, where circumcision has relieved convulsions and restored health where other treatment had failed. One was that of a lad about ten years of age, who had frequently recurring convulsions which nothing seemed to modify or relieve, and which physicians and kind friends had attributed to all the ailments the human body is subject to. At last, phimosis being suggested, it was sought for, found, and relieved. No more convulsions have occurred in the twenty years which have since elapsed.

Another case has been brought to my attention, in which as many as forty-five convulsions, distinct and separate, occurred in twenty-four hours; circumcision, being performed after this state of affairs had existed for many months, at once lessened the spasms to four or five a day, and slight ones at that. When last heard from several days had passed and no convulsions had appeared.

A third case had been under the care of one or more skillful physicians, who had treated the case as one of digestive disturbance. Upon being called upon to attend the child, I substituted the bistoury for digestives, and circumcision succeeded where pepsin and castor oil had failed.

Another source of trouble to those needing circumcision, and not knowing it, is the depletion of their pocketbook. These youths, annoyed by some trouble with the penis which they do not understand, and too modest to apply to their father for advice, and afraid, or ashamed, to consult the family physician, take the advice given by the advertisement of the newspaper quack, "when all others fail, consult Dr. Blank," and at once become the victim of those nasty parasites upon the body of the medical profession, to the detriment of their health and the lessening of their wealth.

I have a friend who, in early youth, became and continued the victim of these harpies for years. He was more tormented than consoled by their advice, and, as he told me, paid near \$500 for medicine which, he afterward discovered, was the ordinary tincture of iron. Dr. Agnew circumcised him, and all his trouble disappeared.

Illustrative cases of other effects of phimosis and the resultant relief of circumcision, selected from our own practice and culled from books and journals, might easily be given, but enough has been shown to prove the advantage of the operation in *marked* cases, and lest in later life any prepuce should prove to be too long or too constricted, it is perfectly safe and justifiable to circumcise any case as to which there is the least doubt. Its effect upon health and longevity is apparently shown in the Jewish race, as well as the effect upon their domestic relations.

The late honored and revered Dr. Hayes Agnew, previously referred to, once said to me that he believed it would be to the advantage of the world if every male child was circumcised.

Many reasons why circumcision is a moral and physical advantage have not been stated, and in the brief space of a few moments cannot be. I would, however, call your attention to the list (quoted in the earlier part of this paper) of the ill results that may follow the neglect of circumcision, and give them and the ills following in their train as the necessities for its performance.

As to the moral advantage to be derived from this operation, there can be no possible doubt. Anything

that promotes human comfort and increases human happiness or that lessens the tendency to physical and moral sin must be of an advantage, moral as well as physical.

The subject has but been touched upon. Hours instead of moments might be profitably spent in dilating upon it. As the question has been looked into, I have been intensely surprised and interested at the depth and richness of a theme which at first appeared trivial and trite.

As to the methods of the operation, the clearest and most practical that I have found are those set forth in the work of White and Martin, already referred to.

For a work upon this subject which contains both wit and wisdom, and at the same time is historical and instructive, a work which you can enjoy beside the "red lamp," I would refer you to the book entitled "Circumcision," by Remondino, and published by F. A. Davis.

As when in our dealings with the adult female sex, after weeks of treatment and hours of anxious thought over nervous trouble the case has only become more obscure, we have learned to interrogate the sexual organs as a possible source of the trouble. So, too, some of us have learned in the treatment of various nervous disturbances in the early life of boys to look for the trouble in an elongated and perhaps constricted and adherent foreskin. We may also have been much chagrined to have had such a solution of the trouble suggested by some motherly old body, whose observation and memory have stood her in better stead than our own.

STRICTURE OF THE ESOPHAGUS FOLLOWING TYPHOID FEVER.*

BY WILLIAM C. DUGAN, M.D., LOUISVILLE, KY.

THE patient who is the subject of this report was operated upon one week ago, having been sent here from Indiana. A young man, twenty-two years of age, six weeks ago came to the city to see Dr. W. O. Roberts; he went to the Infirmary, and as Dr. Roberts was not feeling well enough to attend to him, he became impatient and returned home. He came to see Dr. Roberts because of what was supposed to be an esophageal ulcer.

The history sent me by the family physician is as follows:

"The father died in September, 1897, of pulmonary and cardiac trouble, and suffered with irritable stomach, vomiting a great deal the last six weeks.

"The mother had pulmonary disease, and took her bed with enteric fever about the first of October, 1897, and died two weeks later.

"The oldest boy, Charles, took the same fever October 1, 1897, and after a severe sickness of ten weeks became convalescent, and is well and hearty now.

"Thomas and Joseph were taken sick with enteric fever about November 12, 1897. Joseph's age was about eighteen. He was very low, but at the end of eight weeks became convalescent; complained during sixth week of pains in stomach and through chest, also of sick stomach, all of which passed off in a few days. Three weeks after being discharged he complained that he could not swallow. I could not pass the smallest dilator into his stomach; it passed without any resistance 14 inches. He died probably eighty-five days from his first sickness.

"Thomas (the subject of my report, W. C. D.) was convalescent at the end of eight weeks, but had a relapse

*Stenographically reported for this Journal, by C. C. Mapes, from the Louisville Clinical Society.

from over-feeding, after which he suffered a pneumonitis and hemorrhage from bowels; stomach was much inflamed and very tender, and he had spells of vomiting for two or three days. He became convalescent, and I discharged the case at the end of six or seven weeks from his relapse.

"I saw him last on February 10, 1898, when he had nothing to complain of; good appetite and swallowing without difficulty. The sanitary surroundings of these patients were very unfavorable, the nursing was of the poorest kind, and my instructions as to nourishment and nursing were not properly attended to.

"The treatment was largely supportive and tonic; bismuth for diarrhea; enemas of sterilized warm water at times; nux vomica in small doses, and small doses turpentine on sugar when patients suffered with cracked tongue and tympanites; sponged with soda water when fever was high."

This young man came to see me two weeks ago. He was much emaciated, and was then unable to swallow, and had been so for four or five days. This applied to milk and water as well as solid foods. He told me that he would frequently drink two or three gallons of water, which would be immediately regurgitated, in his efforts to quench his thirst. This boy weighed at one time 150 pounds; at the present time he is down to 85; when he first came to the city six weeks ago his weight was 115. I examined him carefully, and found that in attempting to pass the smallest bougie that it would go about to the diaphragm—accurately fifteen inches, which would be one inch from the cardiac end of the stomach. It could not be made to pass beyond that point.

The patient was so emaciated and run down in general health that I sent him to the Infirmary to support him and try to bring him up by rectal alimentation for a few days. He responded nicely to peptonized beef, and by giving him water per rectum (slightly saline) his thirst was quenched, and he improved considerably, but was still unable to swallow anything, and we decided to do a gastrostomy. He was put on the table, chloroform being the anesthetic used. I made the usual incision (Frank's) three inches below the ribs and parallel to the costal cartilages, exposing the rectus muscle; then by blunt dissection separating its fibres for two inches, cutting the transversalis fascia and fascia of the muscle and the peritoneum, all on one plane, going directly through. I found the stomach entirely empty, collapsed and very small. It was brought out through the opening near the fundus. I examined the cardiac end of the stomach as well as I could, and am satisfied there was no malignant disease at that point; there was no sign of it; there was no nodulation as we would expect to find in carcinoma. The stomach was brought out about 1½ inches and secured by running a circular suture around the conical mass that was drawn out, passing the sutures through the peritoneum, muscle and fascia down to the muscular coat of the stomach, using interrupted sutures. Then, after getting it firmly secured at this point, another incision was made parallel to the first, 1½ inches distant, just under the edge of the ribs through skin only, and dissecting the skin loose between the two incisions the stomach was brought out, and again the stomach was sutured around this point.

The patient was nourishing so well by rectal feeding that we decided to defer opening the stomach until a later date. On the fifth day thereafter we opened the stomach. I will say that he was doing well, gaining every day while being fed by the rectum, and he said that his hunger was entirely relieved. We are now feeding him through the opening into the stomach, in-

roducing the food through a catheter, and I believe I have never seen a patient respond more readily to treatment after major operations.

The question in my mind is, what is the pathology that we have to deal with in this case? I have consulted all the authorities to which I have access, and I have a great number of works on surgery, and can find not a single case which makes any reference to esophageal stricture following typhoid fever.

This is the second case in the same family, a point to which I desire to call especial attention. One of them died the eighty-fifth day after the trouble first manifested itself, and I am sure this boy would not have lived out his eighty-five days. If any of the members present can throw any light upon this case, I would like for them to do so.

The stricture was evidently about at the point where the esophagus passes through the diaphragm, as the bougie passed in fifteen inches, which would make it one inch from the cardiac end of the stomach.

I propose to let the stomach rest for a few weeks; then practice gradual dilatation of the stricture. He tells me now that at times he is able to swallow. For a week he has been able to swallow liquids—milk, broth, etc., but has never been able to swallow solids. This is about the history of all these cases—they are able to swallow very well at times; then, without any apparent cause, the stricture closes and they are unable to swallow anything.

I have a patient under my care just now who has a traumatic stricture of the esophagus from swallowing concentrated lye that comes to me once every year to have his esophagus stretched. The mother told me recently that several times during the last six months he has gotten so he could not swallow for a day; then there will be a rest; then he will swallow all right for a week or so; then the stricture will close, and he finally gets so he cannot swallow anything; the patient is then brought to me, a bougie is introduced, and the stricture dilated; then for nine months or a year he will get along without any trouble, when the stricture will again gradually close and the same procedure has to be repeated. The stricture in this case is located at about the same point.

Some of you may ask why I do not divulge the stricture at once? It is for this reason: If you will examine the esophagus in such a case it would likely be found ulcerated above the point of stricture, and the wall of the esophagus would offer little resistance, and the bougie might be easily forced through and pass directly into the mediastinal space or into the pleura. If you will let the esophagus rest in these cases until the inflammation subsides you will find that a bougie can usually be passed, and gradual dilatation is then probably the best method of procedure.

DISCUSSION.

Dr. W. H. Wathen: This is a very interesting case, and to me is unique in its etiology, if the typhoid fever has anything to do with the causation of the trouble. I cannot see how the attack of typhoid fever could have had anything to do with the stricture of the esophagus, and it must have been a coincidence. I cannot conceive what the pathology can be. I assume Dr. Dugan has examined the case sufficiently well to eliminate the possibility of a spasmodic stricture, and we must take it for granted that there is a pathological condition in the esophagus itself to cause the stricture.

What had best be done in a case of this kind, of course, depends upon condition of the patient, and it must be decided at the time by the operator. If there

were no contraindications, had I been operating, I would have been tempted to have opened the stomach before stitching it, and examined with my finger in the cardiac end to find out what was the matter, and, if possible, dilated the stricture at the time with my finger. Possibly the condition in this case contraindicated such a procedure.

I commend the method he used of fastening the stomach into the abdominal wound, dissecting up the integument and bringing it out about an inch. I think this is the surest and best method yet devised for work of this kind. It is safest for the patient; it is a very simple operation, and whether you open the stomach immediately or subsequently you incur fewer risks than by any other means.

Dr. F. W. Samuel: I have seen several cases of stricture of the esophagus, the most of them traumatic in character. Two years ago I wrote a paper on the subject of cicatricial stricture of the esophagus, and at that time looked up the literature pretty thoroughly. I notice a late author has suggested that peptic ulcers, or ulcers at the esophageal extremity of the mucous membrane of the stomach, have been the cause of stricture of the esophagus. The gastric crisis in the case reported by Dr. Dugan, which occurred during the attack of typhoid fever, might have resulted in a catarrhal condition, which caused a stricture of the esophagus, and this seems more plausible, inasmuch as the stricture is situated just at the junction of the esophagus and the cardiac end of the stomach.

The first case I had was in a little negro girl, who swallowed concentrated lye, and it would have been supposed that the stricture would have been high. This was not the case, however, and the stricture was found just above the cardiac opening. I worked with this little patient several weeks trying to get a bougie through the stricture, and failing in this I then performed the House's operation. The child was almost starved to death when the gastrostomy was performed. I fastened the stomach to the external incision, and opened it three days later. She did perfectly well after the operation.

In this case particularly there was noticed considerable saccululation above the stricture; the little patient would swallow anything she could get; the food would remain in the esophagus for an hour or two, until decomposition had occurred, when regurgitation would take place. Her mother said that every little while the child would vomit half a cupful of offensive particles of food, often mixed with mucus.

This patient wore the tube for several months, through which she was fed regularly, and while the smallest bougie was tried repeatedly, even under chloroform, it was impossible to make it pass the stricture.

Like stricture anywhere else, under rest in passing a bougie one day, I found that it slipped through the stricture without any trouble. The explanation is probably that the granulations healed, there was an absorption of the cicatricial mass, and the bougie was allowed to pass. I then advised the mother to feed the child through the tube for at least a year. The child was brought to the clinic at the Louisville Medical College, where we dilated the opening through which the tube was inserted, as it had begun to squeeze around the tube and was the source of decided discomfort. We took out the soft rubber catheter at that time and introduced quite a thick tube. In eating, the child would take milk, etc., in her mouth, and after holding it there for a short time would blow it through the tube into the stomach. The child was fed in this way, not being allowed to swallow anything except water for twelve months, at

the expiration of which time I could introduce the largest bougie through the esophagus. She is now a girl sixteen years of age, and is perfectly well.

The same spring I performed a S. Sabanjew-Frank operation upon a little negro boy. In this case it was decided that we would open the stomach at once. After doing this I put my finger into the esophagus and dilated the stricture sufficiently to get a string through it after the method of Abbe. It was also a traumatic (lye) stricture. The boy's condition promptly improved, being fed through the stomach tube entirely, and at the end of four months I was able to introduce a bougie through the stricture. The tube has now been out for a year, and the boy is well in every way.

I believe it is best to pass a bougie in from below upward in dilating esophageal strictures wherever it is possible, because if there is an ulceration of the walls of the esophagus at the point of stricture, as sometimes occurs, there is considerable danger of the bougie penetrating the mediastinal space when introduced from above.

Dr. W. F. Boggess: As a general practitioner, the case reported by Dr. Dugan is of considerable interest to me, especially as regards the pathology. It is rather singular that there should have been in this family two cases of stricture of the esophagus following typhoid fever, coming on almost at the same time after the disease. I do not know what effect the typhoid fever could have on the formation of these strictures. I would like to ask Dr. Dugan, in closing, to state whether strictures of the esophagus are often tuberculous in character. The patient in this case certainly gives a strong history of tuberculosis. It may be that this is a tuberculous ulceration of the esophagus; we know that after the debilitating effects of typhoid fever frequently tuberculosis is set up, the resistive power of the individual is lessened, and there is offered a good nidus for the growth of the tubercle bacilli. I saw this patient five days after the original operation, at the time Dr. Dugan opened the stomach. He does not look like a tuberculous patient, nor is there any evidence of pulmonary consumption. Notwithstanding this, considering the history of the case, I believe that the stricture instead of being the result of typhoid fever is due to tuberculosis.

Dr. Wm. Cheatham: I have seen a great many cases of stricture of the esophagus; it is surprising to me that the esophagoscope is not used more frequently than it is in such cases, especially in young subjects. It is possible to locate the stricture by means of this instrument, and I have done so in a few cases. In one of the cases a polyp of the esophagus, and not a stricture, was found; the polyp was removed, and the patient promptly recovered. In another case there had been a stricture of the esophagus from swallowing concentrated lye, in a boy seventeen years of age. While in the country on a visit he swallowed a plum seed, and had not been able to take any food since; and the surgeon in attendance had proposed to open the esophagus and remove the stone. The boy was given chloroform, and with the esophagoscope no foreign body could be seen, but the stricture could, and it was proven that the stricture was spasmodic, as it became perfectly relaxed under the effect of the anesthetic, a bougie being passed through without any trouble. No operation was performed, and the boy had no difficulty afterwards.

In young people the esophagoscope can be used rather easily. After putting them under the influence of chloroform, getting them in an exaggerated tracheotomy position, the esophagoscope can easily be intro-

duced. In aged subjects, however, the tube being very stiff, it is sometimes impossible to get their neck in position to introduce it. With the electric mirror, after getting the esophagoscope in position, the light can be thrown in so that the esophagus can be plainly seen; in this way a stricture can often be diagnosed very easily.

We sometimes see following typhoid fever very serious choroidal trouble with loss of vision. We again have ulcers of the nasal septum with typhoid fever. I believe ulceration of the esophagus with a resulting stricture possible in typhoid fever.

In this case I believe Dr. Dugan should dilate the stricture from below, especially if there is any sacculatation of the esophagus above the stricture. In some cases where the stricture is high intubation has been successfully practiced, although I have never tried this method. Would it not be possible in this case to introduce a tube from below? By this means the stricture could be kept open as long as might be necessary.

Dr. J. M. Krim: I am able to understand how a stricture of the esophagus could be produced by an attack of typhoid fever. There are cases on record where gastric ulcers have followed typhoid fever which lasted for a long time. I have seen several cases where there was considerable hemorrhage from the stomach following typhoid fever. I believe in the case reported the stricture is due to a tuberculous element.

Dr. T. P. Satterwhite: I think Dr. Dugan followed the correct procedure in the case he has reported. We are all familiar with strictures of the urethra, and even of the bowel, where they are not malignant formations, and even where they are malignant, are benefited by being put at complete rest. The cases mentioned by Dr. Samuel indicates the wisdom of opening the stomach and allowing the esophagus to rest. I believe if Dr. Dugan will follow the procedure adopted by Dr. Samuel in his case, the result will be entirely successful.

Dr. Curran Pope (present by invitation): I rarely have to deal with cases of this kind; in fact, my experience has been limited to one of stricture of the esophagus of a very severe spasmodic nature, which occurred in a man, a typical neurotic subject, who had emaciated from 165 to about 110 pounds; he was a mere skeleton when I saw him. Repeated attempts had been made to introduce the smallest bougie without avail, and I tried patiently for twenty minutes to get a stomach tube through the esophagus—tried to overcome the spasm, but could not do so. Once I succeeded in passing a stomach tube by a slight trick which may be of service occasionally in treating such cases. The tube was introduced until it reached the point of the spasm; then an electrode was passed down through the tube with a bulb on the end until it came in contact with the stricture; then the positive pole was attached to this and the negative pole placed over the stomach; in this way I was able to overcome the spasm and demonstrate that there was no organic stricture. After that I used strong galvanic currents from the stomach to the nape of the neck, and the patient finally made a satisfactory recovery. That was in 1892; I saw the man two months ago, and he has been perfectly well since.

In spasmodic stricture of the esophagus one element is often overlooked, i. e., the fear that the patient has for eating, and if we can train him to overcome the fear we will have accomplished much in the matter of treatment; but until fear can be overcome it is usually advisable to resort to rectal alimentation. In many of these cases, and especially was it true in the one I have

mentioned, there is diarrhea and considerable irritation about the rectum when alimentation by this channel is resorted to. By the use of proper remedies this was controlled, and rectal alimentation proved very satisfactory. I used no other medication than bromide, which I administered by the rectum in hot water, and this seemed to have a very beneficial effect upon him, not only satisfying his thirst, from which he suffered a great deal, but it also seemed to relieve the intense nervous condition brought about by the esophageal spasm.

Dr. W. C. Dugan: I am sorry not to have been able from the discussion to get any light upon the pathology of the case reported. I cannot see any direct connection between the attack of typhoid fever and the stricture of the esophagus. The man had a gastric hemorrhage, which I failed to make clear in my former remarks, so it is among the possibilities that he also had a gastric ulcer. Whether this ulcer extended up to the cardiac end of the stomach and accounted for the stricture is one of the things we shall probably never be able to determine. He had a very tender stomach, which is also a point upon which I did not lay sufficient stress.

The intubation method, as suggested by Dr. Cheatham, is an old procedure; it was first introduced by Soyn in Guy's Hospital, London; he had a tube made of hard rubber at the point where it was supposed the stricture was located, the lower part being soft, and this extended into the stomach; he also had an instrument for the purpose of introducing and withdrawing the tube. Another method has been practiced, of introducing a tube through the entire length of the esophagus, which has been very successful in cases of malignant as well as cicatricial strictures. This was advised by Mackenzie, of London. The method of tubing, however, is indicated more positively in malignant than in cicatricial strictures of the esophagus.

In the case I have reported, and the other one which occurred in the same family, I do not believe there was any element of spasm or any nervous condition to account for the stricture. The young man upon whom I operated was a sensible fellow; he could take a stomach tube and pass it down to the point of stricture; but was unable to get it beyond that point. I then took a bulbous esophageal sound of small size and passed it down to the stricture, and used all the force I felt warranted in doing, but it would not pass.

If the patient had not been nourishing well by rectal alimentation, and had I not been fearful of extreme nervous shock, I would have opened the stomach as I have done in other cases, as suggested by Dr. Wathen; that is, open the stomach at once and also try to dilate the stricture from below; but in this case the man was being well nourished, although he was very weak at the time of the operation, and had lost so much flesh and strength previously that I was really afraid to add any additional shock to his condition, especially since there was no dilatation of the esophagus. I do not believe in this case that there was a sacculated condition of the esophagus above the stricture, as there was no history of an accumulation in the canal. If he swallowed a small quantity of liquid, it would be retained only a few minutes when it would be thrown up.

—The Emperor has granted the Polytechnic College of Berlin the right to bestow the title of Doctor of Engineering. Heretofore the title of doctor has been given only to theologians, philosophers and lawyers. This action was recently announced at the centennial anniversary of the college.

THYROID THERAPY.

BY W. S. LINDSAY, M.D., TOPEKA, KAN.

THE idea of transferring the finished product of the much studied and still mysterious organ, the thyroid body, with its accessory glands, from lower animals to man, does not carry with it to our minds the name of any individual. This phenomenon, as remarkable and definite within its limits as vaccination, will not be mentioned in our résumés of the advancement in medicine with an immortal discoverer, from the fact that it was the outgrowth of the studies and researches of several. King, of London, showed over one hundred years ago that the colloid substance of the thyroid gland passed directly into the lymphatics. Schiff, Kocher, Murry, Ord, Brown-Sequard, who was made sport of through the daily press, along with Oliver, Schaffer, Horsley, and others, directed attention to the glandular structures as the producers of the elements controlling metabolism. This opened the gate to a field which has been assiduously cultivated and with a fair yield in return. A remedy that does with certainty control the tissue metamorphosis theoretically, comprehends more that is to be desired in a remedial way. The water of the spring of perpetual youth can have no greater efficacy. Being heralded as possessing this basic quality, it is not surprising that thyroid therapy received almost universal application. Creditable observers have reported clinical evidence to support much that might be included in this comprehensive use of the remedy. Increased appetite with more complete absorption of nitrogenous foods, growth of the skeleton of the young, marked improvement in general bodily nutrition, increased activity of mucous membranes, skin and kidneys, and greatest of all, increased metabolism of brain cells, have all been reported as resulting from the administration of this organic complex, the active ingredient of which, the colloid material, contains iodine-thyroidine which was thought by Baumam and others to be the really essential element. If this be true, it furnishes an interesting evidence of the wise selection of remedies by our forefathers in medicine. Like the germicidal quality of mercury and the destructive effect of the products of Peruvian bark on the plasmodium of Lavan, we find on opening the husk, the kernel which reveals the rationale of old therapeutic principles. There are, however, only gleams of light as far as the thyroid is concerned, for there are still several conflicting points in evidence. The apparent need of a continuous supply of thyroid product in the economy of our bodies is contradicted by the removal of the gland without apparent detriment for more than a year. Much more is known and believed to be true regarding thyroid uses than I shall attempt to collate. Following these known and reasonably rational lines, many diseases have been treated by thyroids—rachitis, skin diseases, myxedema, cretinism, muscular atrophy, epilepsy, diabetes, and the various insanities being prominent.

My own experience includes the following cases: My first case was one of myxedema occurring December, 1895, the treatment being carried out by Dr. Marner, of Marion, who reported the case in detail to this Society, May, 1896, at the Atchison meeting. This was an uncomplicated case, making a rapid recovery and still remaining well, but I understand still requiring to continue the use of thyroid.

I have used the powder in several cases of epilepsy and without effect so far as the convulsions were concerned except in one case. This was a girl sixteen

years old, who had apparently idiopathic epilepsy, the attacks occurring several times a day. The mind was disturbed to the extent of grossness of manners, incorrigibility, untidiness and inability to continue in school.

The skin was coarse, the mould heavy, and withal there was the general appearance of imbecility.

Treatment consisted of six grains of thyroid powder per day, and within one week the epileptic seizures discontinued with no more return for nearly six months. During this time the mental condition changed so that the girl went to school and assisted her mother in household work. Two weeks ago a severe convulsion occurred at the menstrual period. The treatment is still continued, but I feel apprehensive that it will in the end be ineffectual.

Another case was one of myxedema with mental depression bordering on melancholia. The patient was a married lady and she began to worry, feeling that she was not equal in a social and intellectual way with her husband's sisters. The usual symptoms of myxedema were present and the history showed that a goiter had existed fifteen years previously, and that this had been successfully treated with iodide.

Increasing doses of P. D. & Co.'s thyroid extract from six to fifteen grains per day relieved the myxedema and melancholy within one month—the patient remaining well on small doses.

Another case was a girl of eighteen years, with primary dementia. There was gross untidiness of person, aimless resistance to anything that was done for her, requiring the constant care of an attendant. The history of this case showed infantile convulsions and later an attack of meningitis.

As a child she had learned slowly, but had gotten on fairly well until about one year previous to my seeing her. I felt that there was very little hope of benefit in treatment, but as there was the coarse appearance of the face and general sthenic condition, I prescribed the thyroid, five grains three times a day. The patient lived out of town and I did not see her for one month when she returned entirely changed, tidy in person, quite normal in manners. She talked coherently and seemed restored. Three months later I heard from her, when she continued well.

I have a case of progressive muscular atrophy under treatment with the thyroid, but the time is too short to make a report of any value.

I may also say that I have treated several cases of cretinism with some degree of success. I appreciate that what I have offered to you is nothing more than what I see reported from time to time in medical journals in regard to the usefulness of the thyroid extract. But I feel called to add my contribution of personal experience.

Treatment of Cholera Infantum.—Dr. A. E. Chatfield, of Cleveland, Ohio, recommends in cholera infantum an enema of warm water with one ounce of Glyco-Thymoline (Kress) to the pint, and internally the following:

Bismuth Subcarbonas.....	3i
Spts. Myristicæ.....	min. xx
Spts. Vini Gallici.....	f 3 iii
Glyco-Thymoline (Kress).....	f 3 ss
Mistura Cretæ.....	q. s. ad 3i

M. Sig.—A teaspoonful every three hours. In other cases reported, equal parts of Liq. Bismuth and Glyco-Thymoline, one-half to one teaspoonful was used every two to three hours with excellent results.

THE TREATMENT OF SKIN TROUBLES BY THE GENERAL PRACTITIONER.

BY CHAS. WILLIAMS, M.D., PHILADELPHIA, PA.

MUCH can be done by the general practitioner in the treatment of skin diseases if he will but go to a little trouble in preparing himself for the task. The object of this paper is to state what the latest treatment by the various authorities consists of, in various conditions. First the treatment of:

Paget's Disease of the Nipple.—Let us take a typical case which is of decided interest. Here is an affection involving the breast around the nipple. The woman says she has had it for about one year, but I have no doubt that it has been developing for several years. Here is a condition around the nipple where the edges are sharply defined, a couple of inches in diameter, an infiltration, an inflammation over an area more or less smooth.

Of course eczema is the first thing that suggests itself to us. But here the nipple has begun to ulcerate and disappear. That of itself would suggest that this is a case of Paget's disease of the nipple, a condition carcinomatous in nature. In its early stages it is almost impossible to distinguish between this and eczema, but later the nipple begins to disappear. It is a rare disease. In my mind there is scarcely anything wanting to the case except a glazed condition of the area, which would resemble in appearance a thin diphtheritic deposit. After this disease begins it may go on in this manner for a few years but sooner or later the breast goes into an ordinary carcinomatous condition.

The other nipple shows no tendency to disappear. When you are in doubt a microscopical examination may clear up the nature of the disease.

The case has got beyond the care of the dermatologist and belongs in the domain of the surgeon. If you had the case in its early stage when the diagnosis could not be made, the treatment would be simply the treatment for eczema: that is, mild stimulation. But as soon as the diagnosis is made—enucleation.

The next condition we will discuss is that of:

Tubercular Syphilide.—The case used to exhibit this disease presents an eruption back of the ear, one or two inches in diameter and nine months in duration. There is considerable infiltration of the edge. The two things that are immediately suggested are lupus vulgaris and a tuberculous syphilide. In lupus you are apt to find beyond the border yellowish, apple-butter spots of the characteristic deposit. And lupus is very slow in its development. Time itself is a great differential point between the two. For that reason alone I would be inclined to exclude lupus here. The diagnosis between the two is not always easy. When you have a limited patch of a tuberculous syphilide which is slow in its progress, it may be very difficult to distinguish it from lupus. I have often seen the mistake made. It is a fact for you to remember. And you must also bear in mind this, that probably out of twenty such cases, at least nineteen will be tuberculous syphilide. Keeping these facts together there will be little excuse for you to be mistaken in your diagnosis.

Notice here the elevated edge. Remembering the duration of the disease, and the age of the patient, because lupus almost always begins before twenty, we shall not call this lupus. In ringworm you would rarely find such symptoms, yet exceptionally you would have the elevated edges and a good deal of infiltration.

I would rather have a case of tuberculous syphilide come into my office than any other disease, because

with treatment you can do wonders in so short a time. I should put the patient on the ordinary mixed treatment; small doses of potassium iodide, 5 grains, along with a mercurial, probably the biniodide, and no local treatment. If it proves to be any other disease I shall be very much disappointed. In the course of a week or two she ought to come back and let us see what progress has been made.

You must remember in giving the mixed treatment, the digestive disturbance that may result. The tincture of cardamon and compound tincture of gentian are much better used as a basis than the compound syrup of sarsaparilla, which is frequently given.

Remember the one point which I wish to emphasize; that you are not excusable in calling lupus everything you meet that looks like lupus. The chances are all in favor of its being a tubercular syphilide. The diagnosis of lupus is often made in the office simply because the patient looks respectable. There are many innocent ways of acquiring syphilis, especially for women, and the tuberculous syphilide may be the first apparent manifestation of the disease. There may have been other symptoms, not ascribed to syphilis because syphilis was not suspected.

Another disease which interests every doctor is seborrhea, or dandruff. We have a common example of it in the very mild type. From that the disease goes up to extensive cases where we may have crusts up to an eighth of an inch in thickness. If we remove this crust we may occasionally find a redness underneath. If there is a moderate degree of inflammation underneath we have the so-called eczema seborrhoicum.

The underlying seborrhea varies in degree. It is sometimes better and sometimes worse. This fact, in my own mind, has quite a significance. There must be an underlying factor, and the disease must be parasitic. It has very little tendency spontaneously to disappear. As regards the eventual prognosis, it is an easy matter to tell your patient that you can relieve him, but you can never promise that the disease will not come back. Yet it is not the recurrent disease that psoriasis is. After the disease has once been properly cared for, an occasional shampooing and looking after the general health should prevent any serious trouble in the future.

In the treatment the first point is to get rid of the crusts. In the ordinary mild cases, there are no crusts, and shampooing, etc., will be sufficient. But when there is caking, shampooing will not overcome this. The scalp should first be soaked in oil to soften the crusts, then washed with tincture green soap. This should be done two or three times. Then as to the remedies, resorcin, salicylic acid, sulphur, tar (if you can get the patient to use it,) are among the most valuable. White precipitate is also good. In the moderate types, the patient can shampoo once in a week or ten days with ordinary castile soap and water; green soap can be used in the more extensive cases. In still more extensive cases, soak the scalp with oil and then shampoo. A very excellent shampoo is tincture of green soap, and resorcin (5 gr. to the ounce). Egg and various other things are used but these will suffice.

A satisfactory preparation is resorcin, 15 grains, 2 or 3 minims glycerine, $\frac{1}{2}$ dram alcohol and enough water to make an ounce. In using glycerine, remember that a little of it goes a great way. Where the oily element is prominent you can make your basis of alcohol; for instance, 15 grains resorcin, 2 or 3 minims of castor oil, to an ounce of alcohol. It is more stimulating, too, than the aqueous preparation.

So far as the application is concerned, women, I think,

can apply it better than men, because it is unnecessary to apply it over all the hair. It is simply to be rubbed into the scalp. A good way to apply the preparation is to take an eye dropper, dropping in fifteen or twenty places over the scalp, and then taking a piece of flannel and rubbing it in. The application can be made once or twice daily.

Ointments are very efficacious, but more difficult to apply. The same remedies are used; probably resorcin is the most common now. White precipitate is largely used, 20 to 50 grains to the ounce.

After making the application every day, at the end of about four weeks when the condition has subsided, you can gradually stop the application, making it every other day at first.

As to the general treatment there are no specific remedies. You want to build up the general health and look after the digestive apparatus. Arsenic is frequently used. Iron is of use; sulphur, given internally, is sometimes of value. One point that it is important to recall in the use of resorcin in blondes, is that it is apt to change the color of the hair to a bronze tint, especially if used too liberally. The worst case of this that I remember was in a patient bathing often at the seashore. She was exposed largely to the sun and this probably aided in the effect.

When there is falling of the hair, quinine in the form of the alkaloid may be added to the preparation, 5 grains to the ounce. Always be sure to underscore or doubly underscore "alkaloid," for the average druggist will not give it. Falling of the hair may be taken up jointly with this subject, for it is commonly a symptom of seborrhoea. It is especially important when there is any hereditary influence. Sulphur ointment, tar ointment and oil of cade are good. You will find tincture of cantharides mentioned in all your textbooks. It may be used when the seborrhoea is mild or after it has subsided. The Farradic battery you will find efficient and will help in some cases.

Always inquire of your patient as to the cause of the falling. I always look with pleasure on a case that comes for falling of hair after one of the systemic diseases. The final growth will take place without consulting a physician. Syphilis is a cause in its early stages, but the hair, almost invariably, returns. A family record of baldness is a most common and positive factor. Wearing a tight derby hat that constricts, in my opinion would have this influence; and my advice to men always is to wear a soft hat. Heredity and seborrhoea are most easily recognizable causes. Another, rather ridiculous cause given for baldness in men, is that a man pulls his clothes off over his head, while a woman drops hers.

In this connection I want to say that it is an absurdity to shave off the hair after a fever. If one would shave repeatedly it might do good and probably would, but the one shaving can have no effect.

Building up the general health and managing the seborrhoea are the important factors in treating this condition.

In the remainder of this paper I will speak of the management of lupus vulgaris. The treatment is always in the large majority of cases unsatisfactory. I can put down on my record a dozen or more cases cured, but it is only when we get them in early life and find the disease over small areas. When the disease is extensive it is only by the most vigorous methods that it can be overcome, and by using these month after month, and then probably the disease will return. So you see how important it is to get the patient in the early stages. In this country it is not so common nor extensive. When

the patch of lupus is not larger than a half dollar or dollar, then treatment may be satisfactory. But if larger than this, it will probably be recropping out. Even then, if looked after, you may eventually stamp out the disease; but ordinarily your patients don't stick to you so long, especially in this country. In children, where you get the disease in its beginning, you may get a permanent cure in three months.

The treatment consists essentially in destructive measures and is simply a choice of these. You may use milder remedies where the inflammatory element is more marked, such as simple calomel and zinc oxide ointment, or painting over with collodion. Mercurial plaster is sometimes of great benefit in these cases.

Among destructive measures, arsenic paste or salve is one of the best in my mind. It is well enough to preach enucleation by excision, but human nature is weak. Arsenic in the form of a salve, 30 or 40 grains to the ounce, may be applied over a patch two or three inches square, and bound down. This can be changed at the end of twenty-four hours, and kept up two or three days. There is considerable pain.

THE ABDOMINAL BRAIN.

BY BYRON ROBINSON, M.D., CHICAGO.

IN mammals there exists two brains of almost equal importance to the individual and the race. One is the cranial cerebrum, the instrument of mental progress and physical protection. The other is the abdominal brain, the instrument of nutrition and visceral rhythm. To the casual observer the cranial cerebrum seems to overshadow all other nervous centers. The anterior brain of mammals, situated in the skull, is so manifest to the practitioner that it seems to do all the business of the nervous system. It is true that the knot of life is situated at the base of this cranial brain, and by one prick of a bodkin in the medulla life would be quickly snuffed out. Yet a derangement of the abdominal brain snuffs life out just as effectually, though not so quickly. A study of the abdominal brain brings to light views important and practical. In the cranial brain resides the consciousness of right and wrong, and though that power is a little dim in these days of cartilaginous vertebrae and elastic back-bone, yet it exists in that organ. The cranial brain is the seat of all progress, mentally or morally, and in it lies the idea to protect life—or fear of death. But in the abdomen there exists a brain of wonderful powers. It presides over organic life. Its great functions are two—nutrition and visceral rhythm. In this abdominal brain are repeated all physiological and pathological manifestations of nutrition and rhythm of viscera. It manages nourishment and controls secretion. It initiates, sustains, and prohibits rhythm. It receives sensations and transmits motion. It is an automatic nervous center. It is a physiological and anatomical brain. In short, it is a nervous ganglion—only a ganglion possesses rhythmical power. It consists of a blended mesh-work of nervous ganglia. It is made up of the union of the splanchnics, the two pneumogastrics, and the right phrenic. The abdominal brain really consists of two ganglia united by cords surrounding the coeliac axis. The two ganglia are sometimes called semilunar, but I never saw one of that shape. The two ganglia are united by cords at the foot of the coeliac axis, and are known as the solar or epigastric plexus. This abdominal brain, lying along the aorta just behind the stomach, is a silent power in assimilation and rhythmical movements unless some or-

gan is deranged. Disease in the viscera is apt to disturb its two great functions of nutrition and rhythm. The abdominal brain distributes its branches to all the vascular system—artery, vein, and lymphatic. The branches of nerves will sometimes surround the artery like a sheath or pass along it in parallel strands. In short, the branches of the sympathetic nerves are carried to all parts of the system on the walls of the blood vessels. The caliber of the blood vessels, especially the smaller ones is controlled by these fine strands of nerves. They may produce by their action the scarlet blush (capillary dilatation) of the cheek or the marble paleness (capillary contraction) of fright.

The order from the cranial brain for motion is active, direct, reflex, and subsides with the action. But the order from the abdominal brain is rhythmical, and the rhythmical movements play on all vessels and hollow organs, on the circulatory apparatus and viscera. The abdominal brain presides over the glandular system. In the glandular system it holds the balance of power between normal blood tissue and substances to be excreted. The abdominal brain controls secretion. The orders which it sends out to each gland, however, must be reorganized in each separate viscus, *i. e.*, in the periphery of the nerves. The orders to the liver are manifest in the products of bile, glycogen, and urea. The forces sent to the digestive tract from the abdominal brain are obvious from the secretion of the digestive fluids from mouth to rectum. The sympathetic system holds the glandular system as a unit, *e. g.*, when the ovarian gland is injured or removed, inflammation may arise in the parotid gland. And mumps or parotitis may be accompanied by orchitis. The rhythm of the glands, such as the liver and spleen, is possible from their elastic capsules. The orders from the abdominal brain to the digestive glands may become so violent that Auerbach's plexus may throw the muscular wall of the gut into rigid contraction, and Meissner's plexus may secrete so rapidly that an active diarrhea may arise in a few minutes, *e. g.*, a herd of cattle starting on a ship may have diarrhea in five minutes. The abdominal brain is disturbed. It may send orders to the sweat glands so violent that the glands will squeeze out all the sweat in them in a few minutes, and the subject becomes bathed in perspiration. Such execution may be done by inhibiting the sweat centers. Excessive or deficient gland secretion then depends on the abdominal brain and its peripheral machines. The gynecologist sees wonderful rhythmical movements in the generative apparatus, and he must refer this to the abdominal pelvic brain. He will see the oviducts and ovaries passing through rhythmical cycles due to nervous bulbs situated in their walls.

We will consider the abdominal brain, the semilunar ganglia or solar plexus, in the physiology of the sympathetic. This large ganglion receives and sends out motion. It is situated at the root of the great visceral artery, *i. e.*, at the foot of the coeliac axis. It lies behind the stomach and entwines itself about the aorta and root of the coeliac axis and superior mesenteric artery. In short, it is located at the roots of the coeliac, renal, and superior mesenteric arteries. It supplies all the abdominal viscera. It is a gigantic vaso-motor center for the viscera, as is shown by its location at the roots of the coeliac, renal, and superior mesenteric arteries—the great abdominal visceral blood way.

It is connected with almost every organ in the body, with a supremacy over visceral circulation, with a control over visceral secretion and nutrition, with a reflex influence over the heart that often leads to fainting, and

may even lead to fatality. No wonder that we may consider the abdominal brain the center of life itself, as the cranial brain is the center of mental and psychical forces. It rules the life of organs.

The abdominal brain, or solar plexus, is composed of the aggregation or coalescence of a large number of ganglia. On the two sides of the abdominal brain is situated the semilunar ganglia—compact masses of nerve cells, nerve cords, and connective tissues. During many dissections I have noted that the right semilunar ganglion is the smaller, doubtless because it lies behind the inferior vena cava, and has hence suffered from pressure atrophy. Each of the semilunar ganglia receives the great splanchnic nerve of the corresponding side. The other splanchnics may enter it, but it is more to enter the abdominal brain. It may be here stated that although the semilunar ganglia are located on the sides, they are practically so intimately associated with the solar plexus that we insist in combining all the names into one, *viz.*, that of abdominal brain.

All the plexuses of strands of nerves are secondary. The significance of the abdominal brain in the visceral physiology, *i. e.*, in life, may be compared to that of the sun over the planets. The influence of the sun rules the planets, though they are influenced by other suns and planets, *e. g.*, the cerebro-spinal.

The abdominal brain has ganglion cells (brain centers), nerve strands (nerve conductors), and a peripheral nerve apparatus, just as the cranial brain possesses all central conducting and peripheral apparatus. The abdominal brain can live without the cranial (shown by living fetuses with no trace of cerebro-spinal axis), while the cranial brain and the cords cannot live without the abdominal brain. The great sympathetic ganglia, of which the abdominal brain is the ruling potentate, is the center of life itself. So long as the forces of life, assimilation, circulation, respiration, and secretion, proceed undisturbed, as in health, the abdominal brain remains a silent, steady, but ceaseless, worker; but being unbalanced by peripheral or central irritation it quickly manifests or resents the insult. From the abdominal brain large plexuses with numerous nerve strands pass to every abdominal viscus connecting the viscera into delicately balanced, nicely ordered, exquisitely arranged apparatus for the maintenance of life. The nerve plexuses or strands are arranged along the highways of nourishment—blood and lymph vessels—and vary in size according to the importance of the viscus supplied. The abdominal brain fills a great office, because it controls the size of blood and lymph vessels; it regulates secretion and absorption. It maintains visceral rhythm. It supervises growth, waste, and repair. It presides over nourishment. The abdominal brain controls the forces which hold man's body intact. It has a very subtle way of forcing chemistry to subserve its ends. A general summary of the abdominal brain is that (a) it presides over nutrition; (b) it controls circulation; (c) it controls glandular secretion; (d) it presides over the organs of generation; (e) it maintains visceral rhythm.

—De Wecker asserts, in *Ann. d'Ocul.*, 1899, 1 (*J. A. M. A.*), that specific treatment does not affect tabes favorably. It even accelerates its development during the incipient stages. In every patient with gray atrophy, who has taken a course of specific treatment, the sight diminished at once. This coincidence is too frequent and too striking not to signify that the treatment is directly responsible for the lowered vision.

POST-GRADUATE STUDY ABROAD.

PERHAPS twenty-five years of professional life may give a man some insight into what is best for the medical student. In the writer's opinion, student life at home is more profitable than the same amount of time spent abroad. For all professional men the discipline of college education, with the friendships and associations, which time cannot extinguish, are of the greatest value. A longer or shorter post-graduate course in foreign hospitals is of great usefulness. A large proportion of our students who have made up their minds to study abroad launch out in the undertaking without suitable preparation. The college-bred man has at least a smattering of French and German. It is a very general mistake made by students that the German language is more difficult than the French. Three months of study with a competent German teacher will enable the young physician to obtain a practical start in his work in Germany or Austria. Vienna is to-day, as it was twenty-five years ago, a remarkable center of medical education, but there are smaller universities in Germany where the well-posted traveler can reap many advantages. One of the most delightful places to spend a term, or semester, is at Freiburg, in Baden. In Freiburg the expense of living is very moderate, the climate exceptionally agreeable, and the professors and students cordial in their attention to foreigners. Among the professors are men distinguished in the medical profession, and the clinics are well managed. Tübingen and Würzburg are also medical centers not so commonly visited by Americans. In these places one is more apt to be obliged to speak the native tongue, and the opportunities for speaking English are less frequent. It is a good idea to leave at home the English medical books, journals, and newspapers, and to enter as fully as possible into German life and thought. A good rule is to try to think in German. A comfortable room, with meals at some restaurant, is the best plan, and a valuable caution is to always avoid the pension, or continental boarding house. Socially they may be agreeable, but one is forever meeting Americans and English at such places, who persist in speaking their own language. Munich, the most delightful of all European cities, with the wealth of opportunities for any professional man, receives unfortunately little attention from the American of the medical profession. Yet nowhere can medical men taking a post-graduate course reap a richer harvest than in that center of learning. Time spent in Munich is worth more than that given to the Paris hospitals. But where the traveler has no aptitude or desire for acquiring German, or even French, there is work enough to be done in London, Edinburgh and Dublin, and it is more particularly interne life in the celebrated Rotunda to which the writer desires to call attention. Dublin is one of the pleasantest places in the world for an American to visit. The hospitality of its people is justly famous—the climate is all that can be desired, the suburbs are interesting and beautiful, and the opportunities for study, either at the Misericordia or the Rotunda, are not to be surpassed in any English-speaking city. Obstetrical study is especially good. The Rotunda hospital has long been celebrated. The masters of this hospital have been men of world-wide reputation. Accommodation is provided for a limited number of interne pupils, who are received at any time. The institution consists of two distinct hospitals, namely, the lying-in hospital, where twelve hundred labor cases are on an average admitted annually—and the auxiliary hospital set apart for the reception and treatment of patients suffering from the various forms of uterine and ovarian diseases. About

five hundred patients are received into this hospital each year. There is also in connection with the hospital a large externe maternity. Nearly two thousand patients are attended at their own homes annually. There is also a dispensary for diseases peculiar to women, which is open daily. Pupils are admitted to the practice of all these departments. Clinical instruction and obstetrics and gynecology are given daily, and lectures during the session are delivered regularly on these subjects. The post-graduate interne is furnished with a pleasant room in the hospital. There are certain days when he is on duty, and at night a gong sounds—one stroke for ordinary cases of midwifery, two for exceptional cases, and three for something rare or uncommon—so that when not on duty, the interne can consult his own wishes as to getting up or not, to attend the case. The diploma—Master of Arts—Obstetrical—from the Rotunda is granted to pupils on their passing an examination before the master and the medical staff after a period of six months' attendance on the practice of the hospital. The terms of attendance are for interne pupils, 20 guineas for six months; for three months, 12 guineas; for two months, 9 guineas; for one month, 6 guineas. For externe pupils, for six months, 10 guineas; three months, 6 guineas; for interne pupils a very reasonable charge is made for meals and incidentals, which, of course, are extra. Physicians who desire to avail themselves of these opportunities should make application to the master, or to one of the assistant physicians at the Rotunda hospital, Britain St., Dublin, Ireland.

WATER-DRINKING AS A MEANS OF REGULATING NUTRITION.

COLD WATER, unless taken in very large quantities, or at meals, is decidedly less harmful to the stomach than hot water, producing a tonic instead of the debilitating effect which results from hot-water drinking (*Mod. Medicine*, June, 1899; *Cyclop. of Pract. Med.*).

Drinking hot water forty or fifty minutes before eating, in moderate quantities, as from one-half to two-thirds of a glassful, is certainly a good remedy for gastric catarrh, a disorder existing in a large proportion of all cases of chronic dyspepsia. In hyperpepsia, also, one-half a glass of hot water, forty minutes before meals, and the same quantity two or three hours after meals, is highly beneficial but in all other classes of cases water administered with reference to local effects is better administered at the ordinary temperature. The quantity of water must vary according to the weather, the amount of activity, the sort of treatment administered, etc., especially if the patient is being subjected to hydriatic processes whereby the activity of the skin is greatly increased.

In water-drinking, if properly managed, the physician has at hand one of the most powerful means of regulating all nutritive processes, and one which can be employed with perfect safety. The best time for taking water is, ordinarily, one hour before eating and three or four hours after eating. It is a good plan for patients to take a glass of water at bed-time and a glassful on rising in the morning, and to divide the quantity during the day as much as possible, so that the stomach may not at any time be overloaded with liquid. In cases in which a sufficient quantity of water cannot be taken by the stomach without inconvenience, the necessary fluid may be received through the colon. In cases of this sort a small injection of water at the temperature of the body may be administered at bed-time after the patient has retired. By means of a fountain syringe one or two

pints may be slowly introduced into the rectum, care being taken to pass the tube as far into the bowel as possible, and to hold the fountain not higher than two feet above the level of the bed or couch, so that the introduction of the fluid may not be sufficiently rapid to provoke an expulsive action.

Liberal Use of Butter.—No dietetic reform would be more conducive to improve health among children, and especially to the prevention of tuberculosis, than an increase in the consumption of butter, says an exchange. Our children are trained to take butter with great restraint, and are told that it is greedy and extravagant to eat much of it. It is regarded as a luxury, and as giving a relish to bread rather than in itself a most important article of food. Even in private families of the wealthier classes these rules prevail at table, and at schools and at public boarding establishments they receive strong reinforcements from economical motives. Minute allowances of butter are served out to those who would gladly consume five times the quantity. Where the house income makes this a matter of necessity there is little more to be said than that it is often a costly economy. Enfeebled health may easily entail a far heavier expense than a more liberal breakfast would have done.

Cod liver oil costs more than butter, and it is, besides, often not resorted to until too late. Instead of restricting a child's consumption of butter, encourage it. Let the limit be the power of digestion and the tendency to biliousness. Most children may be allowed to follow their own inclinations and will not take more than is good for them. The butter should be of the best, and taken cold. Bread, dry toast, biscuits, potatoes, and rice are good vehicles. Children well supplied with butter feel the cold less than others, and resist the influenza better. They do not "catch cold" so easily. In speaking of children, I by no means intend to exclude other ages, especially young adults. Grown-up persons, however, take other animal fats more freely than most children do, and are, besides, allowed much freer selection as to quality and quantity.—*Exchange*.

Kola in Seasickness.—C. C. Vinton, in the *Medical Record* of February 24, 1900, claims to have tested kola personally upon a voyage from Yokohama to San Francisco. He says that he is an indifferent sailor, and the first five days of the trip were rough. By keeping a piece of the dried nut in his pocket and frequently biting off a morsel and chewing it slowly he found himself free in the main from the swimming headache and the sour stomach which commonly accompany any exertion under these circumstances. If he waited until the stomach symptoms appeared no effect seemed to result from the use of the nut. When the remedy was taken while there was yet time for observation, as in the early morning, it seemed to act specifically in preventing the severe symptoms of seasickness. The good effects were noted in about twenty minutes or half an hour, and he attributes them to a mild stimulation of the nervous system and the general toning of relaxed tissues produced by the drug. He does not claim that kola cures seasickness, but it decidedly moderates this condition.

Arthritis Treated by Electricity.—M. A. Cleaves (*N. Y. Med. Jour.*, March 31, 1900) reports two cases of rheumatoid arthritis which were markedly benefited by the use of electricity. In one case Franklinic electricity was employed with connective discharge from crown

electrode for ten minutes, and with the brush electrode to the entire general surface, and especially upon the affected part to relieve pain and disability. In the other case a continuous current bath was given with the patient immersed in normal saline solution. An electromotive force of ten volts was used for ten minutes, followed by a sinusoidal current administered in the same way, full power of the alternator (1,496 alternations to the second) for ten minutes. Attention is called to the fact that in both these cases the expenditure of energy was to the entire organization, with the purpose of setting up such nutritional changes as would result in relief from pain and improve the general health.

Antiseptic Treatment of Typhoid.—C. D. Miller, of Pottsville, Pa., reported in the *Pennsylvania Medical Journal* for October, 1899, that of 500 cases treated by him during the past ten years, there were no deaths. He employed a modification of the German method of administering carbolic acid and iodine, giving a mixture of these with syrup and distilled water in such a manner that the patient received five-sixteenths of a drop each of tincture of iodine and carbolic acid every two hours.

Dr. Miller claims that, by this plan of treatment, the symptoms are all speedily changed for the better. He says: "The fever promptly declines, the stools become less frequent and less offensive and changed in their character, perspiration is modified, restlessness subsides, delirium disappears, consciousness returns, and the patient, becoming tranquil, falls into a quiet sleep, from which he awakes much refreshed."

This is a milder form of treatment than other similar methods, and should at least be a perfectly safe resource.

Paresis of Chorea and of Exophthalmic Goitre.—M. Loude remarked the analogies existing between the paresis of these two diseases, a nearly constant complication, as is well known. M. Beclere stated that it was very difficult to fix the limits of the syndrome of Basedow's disease. It is often met with in hysteria, and sometimes difficult to define the point of departure between hysteria and the goitre. This is especially true of the paralysis.

Tuberculosis in Pregnancy.—Authors agree in saying that delivery aggravates pulmonary tuberculosis. By what mechanism is this aggravation produced? I observed a woman, who, at the beginning of her pregnancy, was attacked by fever, chills and slight hemoptysis. At seven months of her pregnancy, she was delivered. The day after delivery, the fever returned, and she died on the 15th day subsequently. There were tubercular lesions of the lungs and intestines, with no traces of gray granulations indicative of a recent attack. In a second case, published by M. Kuss, a tuberculous woman succumbed rapidly after a febrile attack, a few days after expelling a foetus of six months. In this case too, no appearance of recent tubercles explained the rapid aggravation. In these two cases I found the tubercular bacillus in the blood by inoculating a guinea pig. Then it seems that delivery can promote mobilization of the bacilli by invasion of the blood, a veritable tuberculous septicemia similar to that observed in consequence of surgical operations. This septicemia is without doubt sufficiently intense to produce death rapidly by itself and before the gray granulations have formed.

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THE POISON AND THE ANTIDOTE EVOLVED FROM THE SAME ELEMENTS, A LAW OF NATURE AND A CLUE TO A SCIENTIFIC THERAPEUTICS.

IT is an interesting fact that the soil from which emanates the most violent forms of malarial poison furnishes also in the flora which receives life and strength from its bosom an antidote to the poison. In the cinchona tree, the eucalyptus, as well as the cedron and numerous shrubs, we have the best antidote for the malarial poison most violent in those localities, and there is nothing more effective in controlling the congestive fevers of the western plains and mountains than the wild sage which grows in such abundance in those localities. Thus good and evil, life and death, flourish side by side, the one furnishing an antidote to the other.

It is a well-known fact that with all poisonous reptiles the poison sack is at the root of the fang or the sting, and is injected through it into the flesh. It is not generally known, however, that the entrails of the scorpion contain the antidote of its own venom, relief being instantly obtained and all danger removed by crushing the body and applying it to the bite. In the scorpion the poison is contained in the last section of the tail, next to the dart at the extreme end of the tail, which inflicts the sting, and, like the fang of the serpent, carries the poison from the poison sack into the inflicted wound. Remove this and the scorpion is harmless, the same as with the serpent when the fang is removed. The venom of the scorpion injected through its sting, however small the

quantity, induces fever and paralysis of the tongue, and, like the poison of the cobra, lachesis, and crotalus, has been used to a certain extent as a remedial agent. It has been said, but we cannot vouch for the truth, that the scorpion commits suicide when surrounded by fire. It is a well-attested fact, however, that the brood of the mother scorpion, when they are large enough, cling to the mother like leeches, devouring her life atom by atom. When there is nothing left but the shell, they scamper away.

The so-called rabies mephitica, which is hydrophobia from the bite of a common skunk, finds its natural antidote in its defensive fluid, which it squirts with great force, sometimes to the distance of eight or ten feet. This fluid is not the urine, but is secreted by two glands, one on each side the anus, called anal glands, and is the mephitic battery for offense and defense. Until the fluid in the battery is discharged the skunk seldom bites, so that there may be a causative connection between the inactivity of the anal gland and the generation of a malignant virus in the glands of the mouth, the former being the antidote to the latter. The bite of the rabid dog is supposed always to convey the poison, but the skunk only bites when the mephitic battery is exhausted, and the bite produces hydrophobia. The virus in hydrophobia affects the eighth pair of cranial nerves and their branches, producing difficulty of swallowing and breathing. The symptoms are more violent and more likely to be fatal in rabies canina than in rabies mephitica, but the period of incubation is about the same in both. It is an interesting fact that man has never been known to inoculate man with this disease.

It is along this line of study, directed to a certain extent and stimulated by these hints from nature's effective work, that the bacteriologist has attained the most satisfactory results in the etiology, prevention, and cure of diseases hitherto considered the most malignant and pestilential. Fully realizing the fact that the diagnosis and treatment, prevention and cure of the latest and most malignant pestilence, "the bubonic plague," rests almost entirely upon the results of bacteriological investigation, the Board of Health of this city are taking steps towards the erection on the grounds of the Reception Hospital in East Sixteenth street of a bacteriology laboratory, which will cost about twenty-five thousand dollars. On account of the virulent nature of the bubonic germs, it will be constructed with the utmost care, and every precaution taken to safeguard the workers in the laboratory. Dr. Doty, the efficient Health Officer, thinks with the precautions now being taken there is no danger of the disease gaining an entrance into the city, but as two cases have been treated at the quarantine during the past year, and New York is in close commercial relation with every part of the world, the prudence and forethought of the Board of Health is to be commended in taking active steps to meet every condition which may arise. In a recent editorial we stated, on the authority of a prominent

physician who has traveled extensively in South America, that a disease closely resembling in all particulars the bubonic plague, and, he thought, identical with it, existed among the natives of the pestilential swamps of the headwaters of the Brazilian rivers.

The natives lived mostly on fish and game, and their huts were filthy in the extreme. In their treatment the poison of the plague was met by the poison of the serpent, the most efficient remedy being scarification with the fang of the *Crotalus*, lachesis or some other poisonous reptile, to which the poison sack was still attached. The fact should not be forgotten in the bacteriological investigation of this disease that serpent poison—the *crotalus*, the cobra, and the lachesis—are included in the repertory of remedial agents in diseases characterized by great depression of nerve force and active general decomposition of tissues. In the opinion of the physician quoted, the recent appearance of the plague in Uruguay came from the locations above mentioned. The city where it made its appearance is located several hundred miles from the seaboard. If it came from that direction the disease should have first shown itself at the entrance port. For this reason he thinks it was conveyed by wandering Indians from the interior.

The earnest study now being given to this and other diseases from a bacteriological standpoint gives promise of great success.

NEW YORK HYGIENE.

IT is a consolation that our city is not quite as bad as it is often represented to be. When we get down to simple facts, it will be found that New York is a pretty respectable city as it regards health and cleanliness. Dr. John B. Crosby, one of the Health Commissioners of New York, on his return from an extended trip to Europe in which he gave particular attention to the sanitary conditions of leading cities, is most emphatic in praise of New York, and is entirely satisfied it has not only the lowest death rate, but is sanitarily far ahead of any city of considerable size in the world.

CAUSES OF DEATH.

A LEADING life insurance company has recently published its monthly records covering a period of fifty years. Notwithstanding the utmost care is observed in securing only good risks, free from organic diseases, the cause of death in the insured and uninsured is probably much alike. Out of 44,963 deaths, a trifle over one-eighth (5,585) were from tuberculosis. Almost the same number (5,542) came from apoplexy, softening of the brain and paralysis, which are kindred maladies, if not practically identical. To disorder of the heart are credited 4,839 deaths (one-ninth); to the digestive apparatus, 4,584 (over a tenth); pneumonia, 4,062 (an eleventh); violent causes, 3,337; Bright's disease, 2,997; typhoid fever, 1,712; nervous diseases, not specified, 2,306; ill-defined and obscure cases, 1,768; and other recognized maladies, 5,450.

When the deaths from the causes just enumerated are divided into the three periods, the age of forty-five and under, from forty-five to sixty, and above sixty, some striking facts are brought out. Among the insured 50 per cent. of the deaths from violence (accident or intentional assault), 59 per cent. of those from tuberculosis, and 68 per cent. of the total typhoid cases, occur in the first period. On the other hand, 47 per cent. of the mortality from Bright's disease, 55 per cent. from apoplexy and paralysis, and 56 per cent. from heart disease occur after sixty. Mischief from the digestive apparatus is fairly well distributed, 30 per cent. of the deaths occurring in the first period, 38 per cent. in the second, and 32 per cent. in the third.

APPLIED CHEMISTRY

AT a recent date two French chemists, M. Desgrez and M. Balthazard, claimed to have made a chemical discovery which could be utilized at a very small cost, and which would do away entirely in submarine work with costly apparatus now in use, and enable them to renew air indefinitely. The experiment, which was entirely successful, consisted in lining a helmet, to be used by divers, made of aluminum, with the bioxide of sodium. The oxygen set free by this chemical would be sufficient to enable the wearer to breathe freely and work for hours without any addition of atmospheric air. Dr. Smith, an expert physiological chemist in the well-known laboratory of Fraser & Co., Fifth avenue and Twenty-ninth street, at the request of the *New York Herald*, made some interesting and very satisfactory experiments to determine from a scientific standpoint the value of the bioxide of sodium when properly managed in keeping the air so saturated with oxygen and absorbing carbonic acid that life can be supported in a confined space without the admission of atmospheric air until the chemical has given out all its oxygen. In each of two large bell jars was placed a guinea pig. In one of the jars was placed some of the bioxide of sodium with a simple apparatus for its decomposition; the other contained nothing but the guinea pig. The jars were sealed and the result closely watched. The pig which had the advantages of the chemical breathed naturally, was perfectly undisturbed, and when the jar was lifted ran away, as well and as lively as ever. The other soon showed signs of asphyxiation, the breathing was labored and rapid, and the pig would soon have become convulsed if the glass had not been lifted. The pig was then so exhausted as to be unable to move, and it was several minutes before it fully recovered. The bioxide of sodium is very easily manufactured by simply heating sodium in oxygen until it is saturated and ceases to gain in weight. The addition of moisture decomposes the chemical and sets free the oxygen in the same way that acetylene gas is set free from calcium carbide. Reckoning one pound of oxygen to fifty cubic feet of air, and the consumption of each individual about an ounce of oxygen in twenty-four

hours, five pounds of bioxide of sodium, which is twenty-three and one-third parts of oxygen, would yield sufficient oxygen to arterialize the blood for twenty-four hours. It will be readily seen how this simple process of applied chemistry can be utilized at a very small expense in work which has heretofore been attained with great labor and expense, liable at all times to accident, and sometimes attended with positive danger.

WILL IT STAND THE TEST?

AT the recent International Medical Congress in Paris three papers were read detailing the experiments and the results obtained during the past few years with the discovery attributed to M. Francisque Crotté some four years ago on the cure for tuberculosis through the transfusion of microbe-destroying drugs by means of electric currents passed through the chest and lungs. The papers read were by Dr. Bertheau, medical delegate to the congress from the city of Paris; Dr. Ducamp, delegate from Bordeaux; and Dr. Labadie, delegate from the Medico-Legal Society of New York. The conclusion of the three reports, indorsed by Professor Virchow, of Berlin, and Dr. Broaccardol, of Paris, was most emphatically in favor of the new treatment. Drs. Bertheau, Ducamp, and Labadie show that by static electricity the vapor of formaldehyde has been transfused in the tissues of the chest and of the lungs, thereby destroying the bacilli of tuberculosis and preventing reproduction in their tubes of cultivation. The report says:

Since M. Crotté communicated the theory of his discovery to the French Academy of Science in 1894 eight hundred tuberculosis patients in France have been treated by his method and six hundred of these have been completely cured. The number of patients whose treatment has been set forth in "clinical" detail by the reporting physicians and submitted to the congress is thirty-two. Of these, ten were reported upon by Dr. Bertheau, eleven by Dr. Ducamp, and twenty-one by Dr. Labadie. All the cases known to have been treated by the new method are divided into three categories; first, patients who are in the first stage of tuberculosis; second, those who have reached the second stage, and third, those where the progress of the disease is so advanced that under ordinary circumstances they would be considered incurable. The statistics submitted to the congress show that the proportion of cures obtained by the transfusion method applied to patients of the first category was 100 per cent. The percentage of cures of patients of the second category was 75 per cent., and the proportion of cures in the third category was 30 per cent.

Elaborate experiments have been made with guinea pigs and rabbits to prove the exact quantities of formaldehyde transmitted to the tissue of the lungs by the application of the electric currents, and also to show how the intensity of the transfusion can be regulated. The method of treatment is simple. The patient is

placed in an isolated chair of the static machine, and towels saturated with a solution of formaldehyde are applied to the chest and the back. The solution varies in strength from 1 to 10 per cent., according to the degree of disease and according to the patient's constitution and temperament. The machine is then started, and a current with effluvia, or with sparks, or with both, is passed through the lungs. While this is going on the patient inhales the formaldehyde with electric effluvia obtained by placing a saturated sponge in contact with one of the poles of the instrument.

Dr. Crotté's method of treatment was tried in St. Luke's Hospital in this city last winter, but failed to meet the approval of the physicians after several weeks' test. The conclusion reached was that, while no hurtful consequences could be detected, there had been no conspicuously beneficial results. The discrepancy between the two reports is so marked that further experiments will undoubtedly be tried in other hospitals.

SOLDIERS' RATIONS IN THE TROPICS.

THIS important subject, to which attention has been specially called by the recent war with Spain, in which two great armies, one in Cuba and Porto Rico and the other in the Philippines, have been supplied with army rations of food, appeals to us in the strongest manner to solve the question, if a large proportion of the fatality from disease, far exceeding that of the battle field, was not due more to errors of diet, from ignorance and custom, than from the climate of the tropics. The same rations were provided for our armies in the tropics as would be furnished for expeditions against the Indians in the Rocky Mountains. Dr. Seaman, in a paper read before the International Medical Congress, presents the subject in a very strong light, from which we quote:

"We have about seventy thousand troops in the Philippines, and 60 per cent. are sick because of excessive meat diet. The existing ration, containing so much meat, is one of the most astoundingly wrong things connected with the army in the Philippines to-day. It is more than wrong. It is damnable. I notice that recently an order was issued providing for candy for the soldiers. That order was dictated by common sense. That is what the soldiers need—sweets, sugar. Give them chocolate, candy, or sugar, and you'll soon see a large decrease in the hospital list.

"Americans as a rule have a poor opinion of the Chinese soldier, but I am prepared to say, after investigation, that he has far greater endurance in tropical climates than our own soldiers on their present diet. The Chinese soldier gets about one pound of meat a week, the remainder of his ration being made up principally of rice and flour. His sustenance and pay together amount to \$5 a month, with no pension, and yet in fighting the Boxers these same Chinese soldiers have exhibited far greater endurance than our own soldiers.

"In our late Spanish-American war fourteen men died from disease for every one that was killed by bullets.

Every death from preventable disease is an insult to the intelligence of the age. When it occurs in the army it becomes a crime. The morals of most wars are cash. From a moral, then, as well as from an economic standpoint, the state should guard the soldier's health, for nothing is more costly in war than disease and afterward than the pension.

"The critics of the present army ration are told that the ration is fixed by law, and that only an act of Congress can change it. When men are being invalidated by thousands a statement like that is not worthy of consideration. If the ration is not a proper one, it should be changed at once. I am going to keep hammering away on this subject until something is done.

"When our troops were sent to the Philippines it was noticed that the cavalry horses could not be induced to eat the hay sent over for their forage. One day a trooper who had been in the habit of feeding his horse sugar noticed that the horse showed evidences of the greatest delight over the sugar, and sugar was tried with the other horses. Just before this, it should be remembered, horses had been dying by the hundred. Then one of the army officers suggested that the horses might eat the hay if molasses were put on it. As soon as this was tried, the horses ate the hay with the greatest avidity, and the sickness disappeared almost as if by magic."

We have referred repeatedly in this journal to the great need of a new Cabinet officer with the same stand in the Cabinet as the other Secretaries, whose duty it should be to look out for the health of the nation, inaugurating just such reforms as is called for in this condition of army and navy.

NATURAL X-RAYS.

THE *Moniteur de la Photographie* reports some experiments in which the same effects which Prof. Roentgen produced with the cathode rays of Crooke's tubes have been obtained by means of sunlight. The experiments were made in a small courtyard, partly in the light and partly shaded. Exactly in the edge of the shadow a man was seated in a chair so that only his back was in the sunlight. With the camera in the shadow, a one-second exposure was made, with the most startling result. When the plate was developed, the body was transparent, but not only could certain bones be seen, but also objects behind the body the view of which should have been cut off. The same result was achieved several times, each time with a different subject.

THE GRIPPE.

THE mortality records which have been prepared for the life insurance exhibit in Paris show how important this comparatively new disease has become from an insurance standpoint during the past decade. Eight years ago, when the disease was epidemic in the United States, 129 deaths among policy-holders were reported. Since then, while the mortality has fluctuated from year to year, the annual death rate has

assumed such proportions as to place the grippe second in the list of acute infectious diseases that have contributed nearly 9 per cent. of the total mortality recorded. The showing is believed to understate rather than overstate the actual mortality from this cause, since many deaths due to influenza have been erroneously attributed to pneumonia. If the disease has wrought such havoc among persons sufficiently vigorous to stand the test of a rigid medical examination, to which applicants for life insurance are subjected, what must be its ravages among the population at large, especially when we take into consideration the fact that the disease passes like a cyclone through the nervous system, its effect being felt long after the acute attack has subsided.

TESTS OF DEATH.

APPLICATION has been made to the Secretary of State for a charter for the American Society for the Prevention of Premature Burial. By the provisions of this society physicians of the State of New York will be compelled to furnish a death certificate with the following formula: Two or more incisions in an artery; the palm of the hand exposed to the flame of a candle not more than five inches away; a mirror or crystal held to the lips, with no signs of respiration; a hot iron or steel placed against the flesh without producing a blister. Mortuary chapels to be established in which the bodies of the dead are to be held several hours before burial.

THE study of longevity has assumed a thoroughly practical form in this city by the establishment of a *hundred year club*, which is in a flourishing condition and is bringing out some interesting facts in reference to longevity which can be utilized by the public to the great benefit of the general health. Every possible means of bettering the health and lengthening the lives of its members is given earnest and close study, and a fair trial, when such would seem wise and likely to do good. Directly in this line is the study of heredity and the eradication of the baneful effects which have been supposed to follow hereditary taint.

OPIUM AND CHANGE OF PERSONALITY.

A CURIOUS and very suggestive case is reported in the *Revue de l'Hypnotisme* of a young woman who several times became a victim of the opium habit. At such times she exhibited a character and habits entirely unlike those of her normal and healthy condition. In the latter she was restless, fond of change and travel, impulsive, passionate, and addicted to jealousy. As soon as she began to use opium she became quiet and sedentary in habits and tastes, careful and calculating in matters of money, instead of lavish and reckless as before. Having been cured of the opium habit, she became at once her former restless, impulsive, passionate, and unreasoning self. Becoming again an

opium user, she was immediately transformed into a shrewd, cautious manager of her affairs, reason and reflection dominating instead of impulse and passion; and these phenomena reappearing again in subsequent years as she gave up or resumed the use of the drug. The question would naturally arise to the psychologist, if the morphine state of her personality was not the superior one both from a moral point of view and that of functional equilibrium; and to the therapist the history of this case might furnish a valuable suggestion in the study of this and other agents in the relief of diseased or perverted conditions along the line of the dual action of drugs.

IS IT THE MISSING LINK?

THE burial ground of what was undoubtedly a prehistoric race of the lowest type has been opened by Professor Clement L. Webster in some mound builder mounds near old Chickasaw, in Iowa. Fourteen well-preserved skeletons have been exhumed of a race whose skulls are nearly flat on the crown and whose forearms compare favorably in length with the legs, adding to the belief that these people in their life could scamper along on all fours at a lively and natural gait. Prof. Webster, who for many years was the archeologist of the Government of New Mexico, thinks he has discovered the missing link in this race of monkey men, between man and the monkey. This discovery is of the utmost importance in the study of the origin of the human race, and will attract the attention of archeologists all over the world.

THE HOSPITAL STAFF.

DR. THOMAS J. HILLIS recently read a paper before the New York County Medical Society on "The Hospital Governor and His Staff: Being a glance at the personnel of a modern hospital and a plea for a permanent resident staff," which deserves a wider reading; in fact, it is a subject which should be of interest to the general public.

Dr. Hillis has treated the subject with a master hand, which shows familiarity with such affairs not to be expected of the inexperienced.

His paper covers the personnel from the Governor to the smallest official, and each is pictured in a way to be recognized by the initiated.

In conclusion, it is said that the hospital is in charge of what is called the house-staff for about twenty-three hours out of every twenty-four, or, for that matter, the whole twenty-four, as the time the visiting staff is on duty it is practically in the house-staff's charge, too. It is the judge, the sole judge, in all matters medical.

Time is lost, says Dr. Hillis, and errors of judgment made, because the men on the house-staff are not ten years older. Then their judgment would be seasoned and character sufficiently formed to decide momentous questions with some precision. At present they are too young, raw and inexperienced to be trusted with grave

responsibilities. It is shown that terrible sacrifices are made that the house-staff may become experienced, and the visiting staff lend themselves as apologists for these crimes. The hospital exists more in the interest of the young doctor who is hungering for more knowledge than in that of the general public. Do the philanthropists and good people who support these hospitals with their generous donations know on what plan these institutions are operated? Dr. Hillis thinks the people are grievously imposed on in order that a few young men may become proficient in the art of medicine and surgery, and as soon as this training is complete and they can be of real service to the sick, out they go to make room for more inexperience. This vicious custom, it appears, says Dr. Hillis, was instituted for the sole benefit of the student in medicine and is adopted by all hospitals as an article of faith.

In any other walk of life men are not given positions of trust until they have had experience which would fit them for it, but in the medical profession, human life is entrusted to men just out of college, without a scintilla of that experience which is absolutely necessary to the proper conduct of a case, with the greatest nonchalance, as if it were the simplest thing in the world to treat a patient and without the slightest conception of what is involved.

Those of us who have served on hospital staffs know full well the weak points in this structure, and can appreciate the incisive arguments put forth in the article referred to. There are many things done, and many left undone, which the public, if it knew, would not condone. Favoritism, prejudice, excessive zeal, neglect, laziness, ignorance, inexperience, all do their part to interfere with an ideal service.

The house-staff as at present constituted has too much responsibility, as Dr. Hillis claims, and with rare exceptions is willing and anxious to assume all it can find. The visiting staff is constantly being deceived as to cases and treatment, and many a patient is so covered that it never comes under the observation of the visiting physician at all. The visiting physician and surgeon is not altogether blameless in respect to the conduct of the house-staff.

In many cases he rarely or never visits the hospital, and when he does may not get beyond the reception room, where he registers his name. Then he meets his "house," who assures him that there is nothing of interest in his ward, and, taking his word for it, departs without looking. This procedure tends to over-estimation of the "house" in his own importance and ability, and leads to deception and assumption of responsibility.

It is the natural tendency of young men when they graduate in medicine to feel that they "know it all," and hence, when appointed to a hospital position, have "no use" for a visiting physician. The present plan of service inclines to help him in this assumption. There should be in every hospital a sufficient resident staff of experienced men, competent to take responsibility,

and allow the inexperienced to look on and gain what they need.

This is the very point which Dr. Hillis is driving at in his paper, but he fails to point out the way to obtain this end practically. This we hope he may do in a subsequent effort.

There is one point which Dr. Hillis did not touch upon in respect to this subject, which is worthy of his steel, viz: The use made of the hospital for the purpose of building up practice, more especially by specialists. This is a dangerous element in the hands of dishonest or unethical men and is much abused. There are, too, men connected with hospitals as specialists, who in private practice accept any case that offers, and they are a menace to the general practitioner. There are many other points in this vast problem which time and space will not permit us to touch at present, but the subject is open and we shall hope to discuss it farther at another time.

A MONOGRAPH ON MOSQUITOES.

THE Department of Agriculture is about to issue a bulletin on the mosquito of the United States, discussing their biology and indicating the difference in all stages of existence between the kinds of mosquitoes that transmit malaria and those that do not, and also discussing the subject of remedies. Among other things the bulletin says that since the opening up of the gold fields in Alaska and the great influx of miners and traders, knowledge of the abundance and ferocity of the Alaskan mosquitoes has become widespread, and Government surveying parties in starting for Alaska for the summer's work are in the habit of consulting the Department for mosquito bite remedies. Those who were in Alaska the preceding year state that they never experienced or even imagined anything in the mosquito line equal to those found in the northern territory.

Mentioning the reputation of New Jersey in connection with mosquitoes, the bulletin says there is a constant carriage inland from the marshy coast of many of the insects, the railway trains seeming to be the most important mode of conveyance. Many of the cars contain mosquitoes by the hundreds. In this way even mountain resorts will get their supply of lowland mosquitoes, and with the improvement of railway service and the increase in the number of through cars the danger is constantly increasing.

About two hundred and fifty species of mosquitoes are known, of which only about thirty have been found in the United States. The report says that of the remedies in use in houses the burning of pyrethrum powder and the catching of mosquitoes on the walls in kerosene cups are probably the best next to a thorough screening and mosquito bars about the bed. The remedies for bites mentioned are glycerine, a lump of indigo and household ammonia.

It should be mentioned also that sulphur powder

dusted upon the skin, or small doses internally, will prevent the mosquito from biting and ol. pennyroyal rubbed in the skin is an old and reliable preventive.

TYPHOID IN PARIS.

IT is interesting to note in the *Journal d'Hygiene* (April 12, 1900) a very important table concerning the prevalence of typhoid fever in Paris.

This question of typhoid fever and its propagation by the water supply of Paris has been discussed very seriously by the Municipal Council, the Council of Public Hygiene and Health of the Department of the Seine, Paris, and by medical societies and physicians. As such great numbers of our countrymen are visiting Paris this year, it is a duty to give warning that Americans should act with considerable caution in drinking water while visiting the Exposition and in traveling in general. The mild red wine (Bordeaux) is an excellent drink for dinner, and its use should be encouraged even among those who are prohibitionists in this country. It is decidedly the lesser of the two evils. The water of coffee has been boiled, but water from the pipes should be strongly advised against.

1895.....	1,389 cases.	271 deaths.
1896.....	1,243 "	262 "
1897.....	1,342 "	249 "
1898.....	1,288 "	257 "
1899.....	4,329 "	802 "

If one compares the first ten weeks of the years 1899 and 1900, the conclusions to be drawn are not reassuring.

During the first ten weeks of the year 1899 the number of cases of typhoid were 398, and during a corresponding period in 1900 they reached 891—almost triple!

Drs. Martin and Miquel attribute this largely to the water supply of the Vanne, Seine and Marne.

IN the *Journal of the American Medical Association* (Oct. 28, 1899), the question of atmospheric changes and hearing is quoted from Oppenheimer. The prevalence of grippe with many complications of ear disorder was noticed during the past winter. Abscess with operations upon the mastoid and many inflammations of the external and internal meatus. The number of cases in which pain continued for days and weeks, threatening more serious complications, make this paper of Oppenheimer's more instructive.

Oppenheimer has studied 50 consecutive cases of chronic sclerosis of the middle ear to determine the variations of hearing under different atmospheric conditions. He calls attention to the fact that the aural apparatus is but a sort of specialized diverticulum of the respiratory tract and has the same histologic characteristics, except such as are connected with its special functions. He also notices the intimate connection between the nasopharyngeal and aural cavities, and the condition of atmospheric pressure affecting each. He con-

cludes his article with the following: 1. The hearing in at least 70 per cent. of cases with chronic catarrhal deafness becomes worse under adverse weather conditions. 2. The degree of impairment of audition, as influenced by atmospheric changes, is determined to a great extent by the location and character of the pathologic process in the tympanic cavity. 3. The morbid alterations most susceptible to barometric variations are those of hyperplasia. 4. In purely atropic changes in the middle ear weather variations have little or no effect on the auditory function. 5. Atmospheric influences also impair the hearing by unfavorably affecting catarrhal processes of the upper respiratory tract and Eustachian tube. 6. All things being equal, the impaired audition in chronic catarrhal otitis is diminished more—under unfavorable weather influences—in those whose general health is below par than in those otherwise healthy.

BIBLIOGRAPHICAL.

MEDICAL DISEASES OF INFANCY AND CHILDHOOD. By Dawson Williams, M.D. New (second) edition specially revised for America by F. S. Churchill, A.B., M.D., Instructor in Diseases of Children, Rush Medical College. In one octavo volume of 538 pages. With 52 illustrations and 2 colored plates. Cloth. \$3.50, net. Lea Bros. & Co., publishers. 1900.

The very excellent work of Dr. Williams, under the editorial supervision of an eminent specialist in children's diseases, has been rendered much more acceptable to the profession in this country by a careful and practical résumé of the diseases of childhood most prominent in this country, with their description and treatment from an American standpoint.

A MANUAL OF OPERATIVE SURGERY. By Lewis. A. Stimson, B.A., M.D., Surgeon to the New York and Hudson street Hospitals; Consulting Surgeon to Bellevue, St. John's, and Christ's Hospitals; Professor of Surgery in Cornell University; Corresponding Member of the Société De Chirurgie, Paris, and John Rogers, Jr., B.A., M.D., Surgeon of Gouverneur Hospital, New York; Instructor of Surgery in Cornell University. Fourth and revised edition. With two hundred and ninety-three illustrations. Philadelphia: Lea Brothers & Co. 1900. Pp. 586; octavo.

The size of this edition has been reduced by the omission of text and cuts, which are considered obsolete. The conclusions from personal experience, the most valuable part of the work, have been increased.

The practical, lucid text, with its excellent illustrations, have made this book one of the most useful and instructive ones for students and practitioners that has yet appeared.

The *Journal of Surgical Technology* is the title of a new periodical, to be published monthly, beginning July 1, 1900. It will be devoted to the consideration of the technic of surgical procedures, at a subscription price of \$1.00 a year. Valuable premiums are offered with the first subscriptions. Address the Technique Publishing Co., 404 East Fourteenth street, New York city, N. Y., for sample copy.

DISEASES OF THE EYE. By Edward Nettleship, F. R. C. S., Ophthalmic Surgeon at St. Thomas' Hospital, London; Surgeon to the Royal London (Moorfield's) Ophthalmic Hospital. Revised and edited by Wm. Campbell Posey, A.B., M.D., Ophthalmic Surgeon to the Howard and Epileptic Hospitals, Philadelphia; Assistant Surgeon, Will's Eye Hospital; Fellow of the College of Physicians of Philadelphia; Associate Member of the American Ophthalmological Society, etc. Sixth American from the Sixth English edition. With a supplement on examinations for color-blindness and acuity of vision and hearing by William Thomson, M.D., Emeritus Professor of Ophthalmology in the Jefferson Medical College of Philadelphia, with five colored plates and 192 engravings. Lea Brothers & Co., Philadelphia and New York. 1900. Pp. 560; octavo.

The sixth edition of any book shows that its usefulness has been demonstrated. The American editor has thoroughly adapted the text to the usages of this country. The method of describing the different diseases being the feature which has made the work of world-wide popularity, has been allowed to stand with as little change as possible. A large number of new illustrations have been employed, and there is an appendix covering the laws governing the visual tests employed in the U. S. service. The book continues to stand, at the head of its class.

A MANUAL OF CLINICAL DIAGNOSIS BY MEANS OF MICROSCOPIC AND CHEMICAL METHODS, FOR STUDENTS, HOSPITAL PHYSICIANS AND PRACTITIONERS. By Charles E. Simon, M.D., late Assistant Resident Physician Johns Hopkins Hospital, Baltimore; Fellow of the American Academy of Medicine. Third edition, thoroughly revised. Illustrated with 136 engravings and 18 plates in colors. Lea Brothers & Co., Philadelphia and New York. 1900. Pp. 558; octavo.

The author in his third edition has thoroughly revised the entire work, and added much new matter, many sections having been rewritten. The advance of this science has been so rapid, that considerable obsolete matter had to be replaced, in order to keep abreast the times, with a view to keeping the book both modern and practical. It is a book that the general practitioner will find of great service in his daily work, as the text is clearly and simply stated with all necessary instructions for service. The illustrations and plates are all that can be desired.

W. B. Saunders & Co. announce as ready "The American Illustrated Medical Dictionary," by W. A. N. Dorland, editor of "The American Pocket Medical Dictionary." This is an entirely new and unique work for students and practitioners. It contains more than twice the matter in the ordinary students' dictionary, and yet, by the use of clear, condensed type and thin paper of the finest quality, it forms an extremely handy volume only one and one-half inches thick. It is a beautiful specimen of the book-maker's art. It is bound in flexible leather, and is just the kind of a book that a man will want to keep on his desk for constant reference. It is absolutely up-to-date, containing hundreds of important new terms not to be found in any other dictionary. It is also extremely rich in the matter of tables, containing over one hundred original ones, including new tables of Stains and Staining Methods, Tests, etc., etc. An important

feature of the book is its handsome illustrations and colored plates drawn especially for the work, including new colored plates of arteries, muscles, nerves, veins, bacteria, blood, etc., etc.—twenty-four in all. This new work has been aptly termed by a competent critic "The New Standard." The price of this work will be \$4.50 net; indexed, \$5.00 net.

W. B. Saunders & Co. announce that they are about to establish a branch of their business in Great Britain. Mr. Saunders has recently spent several weeks in London, where all the arrangements preliminary to the opening of an English house have been completed.

This London branch will be operated in immediate connection with the home establishment, and the same methods that have been so successful in building up the business in this country will be employed in the conduct of this new branch.

The details of the various departments of the firm's affairs have now been developed to such a state of perfection that the house feels the time has come for extending its field of operations. For a number of years Saunders' books have been sold in England through the agency of a London publisher, and, although they have already met with remarkable favor, the house is confident that by applying to the English market the same policy that has proved so successful at home, the sale of its publications in Great Britain and her colonies can be enormously increased.

A MANUAL OF PERSONAL HYGIENE. Edited by Walter L. Pyle, A.M., M.D., Assistant Surgeon to Will's Eye Hospital, Philadelphia; Fellow of the American Academy of Medicine; former editor of the *International Medical Magazine*, etc. Illustrated. Philadelphia: W. B. Saunders & Co., 1900. Pp. 344, 8vo. \$1.50, net.

The object of this book is to present the better means of developing and maintaining physical and mental vigor. In doing this anatomy and physiology are the basis of the consideration. There can be no proper living without a physiologic basis, and it is to show how to obtain this that this volume has been written. The book is well worth reading by the general practitioner, and no student should attempt to graduate without a careful study of the practical subjects with which it deals.

W. B. Saunders & Co. will have ready in a few days the following:

NEW BOOKS.

MODERN MEDICINE. By Drs. J. L. Salinger and F. J. Kaltefleiter, of Jefferson Medical College, Philadelphia. Price, \$4.00 net.

RHINOLOGY, LARYNGOLOGY, AND OTOTOLOGY, AND THEIR SIGNIFICANCE IN GENERAL MEDICINE. By Dr. E. P. Friedrich, of the University of Leipzig, and Dr. H. Holbrook Curtis, of New York. Price, \$2.50 net.

A TEXT-BOOK OF HISTOLOGY. By Drs. Bohm and Davidoff, of Munich, and Dr. G. Carl Huber, of Ann Arbor, Mich. Ready in October.

ESSENTIALS OF HISTOLOGY. By Dr. Louis Leroy, of Vanderbilt University. Price, \$1.00 net.

SURGICAL TECHNIC FOR NURSES. By Emily A. M. Stoney, author of "Stoney's Nursing."

NEW EDITIONS.

SAUNDERS' PRACTICE OF MEDICINE. Fourth edition. Price, \$5.50 net.

McFARLAND'S BACTERIOLOGY. Third edition, revised and enlarged. Price, \$3.25 net.

HYDE & MONTGOMERY'S VENEREAL DISEASES. New enlarged edition. Price, \$4.00 net.

AMERICAN TEXT-BOOK OF PHYSIOLOGY. Second edition, revised, in two volumes. Vol. I now ready. Price, \$3.00 net per vol.

SAUNDERS' POCKET FORMULARY. Sixth edition, increased in size by over 200 formulæ. Price, \$2.00 net.

GARRIGUES' DISEASES OF WOMEN. Third edition. Price, \$4.50 net.

DA COSTA'S SURGERY. Third greatly enlarged edition. Price, \$5.00 net.

STENGEL'S PATHOLOGY. Third edition, revised. Price, \$5.00 net.

During the next six months there will be issued from four to six volumes in Saunders' Medical Hand-Atlas Series.

CANCER OF THE UTERUS. Its Pathology, Symptomatology, Diagnosis, and Treatment, also the Pathology of Diseases of the Endometrium. By Thomas Stephen Cullen, M.B. (Toronto), Assistant Professor of Gynecology in the Johns Hopkins University. With eleven lithographic plates and over three hundred colored and black illustrations in the text, by Max Brödel and Herman Becker. New York: D. Appleton & Co., 1900. Pp. 693, large octavo.

This elaborate work has been written to enable the general practitioner to make early diagnosis of the horrible disease of which it treats, with a view to the saving of life by early operation. It is not necessary in this connection to refer to the importance of the subject.

The author has had ample opportunity and material for his classification and illustrations, so that his work may be considered reliable and practical.

Any practitioner having to do with cancer in any of its aspects will find this book of service. The text is classically written, the illustrations works of art, and the physical part all that could be desired.

CLINICAL EXAMINATION OF THE URINE AND URINARY DIAGNOSIS. A Clinical Guide for the Use of Practitioners and Students of Medicine and Surgery. By J. Bergen Ogden, M.D., Instructor in Chemistry, Harvard University Medical School; Assistant in Clinical Pathology, Boston City Hospital; Medical Chemist to the Carney Hospital; Visiting Chemist to the Long Island Hospital, Boston. Illustrated. Philadelphia: W. B. Saunders & Co., 1900. Pp. 416, 8vo. Price, \$3.

This work is designed to present in a concise, practical way the chemistry of the urine and its relation to physiologic processes, the most approved working methods, both qualitative and quantitative; the diagnosis of diseases and disturbances of the kidneys and urinary passages. The book certainly occupies the first place in urinary diagnosis.

The first part of the work is devoted to chemic and microscopic methods, with many illustrations which enable one without special training to obtain accurate results.

The second part is specially given to diagnosis, with practical differentiation, clinical symptomatology, with the peculiarities of the urine in certain general diseases.

The author has given us the first complete clinical guide to urinary diagnosis, a book as well suited to the general practitioner as to the student, and fully up to date. It is a book to work by every day.

CORRESPONDENCE.

THE PRESENT STATUS OF THE MEDICAL PROFESSION IN SOUTHERN CALIFORNIA.

Editors MEDICAL TIMES:

California of the South embraces the area of territory which includes the seven southern counties, having an approximate population of 300,000, and of which Los Angeles city is the metropolis.

In addition to the three recognized schools of medicine, it has exponents of all the creeds imaginable.

The State Medical Registry gives the following as the number by schools: Regular, 734; homœopathic, 170; eclectic, 88. Each school of practice has an association, of which less than 50 per cent. are members.

The so-called University of Southern California has attached to it a medical department, which from the view-point of a rank outsider could hardly have been called into existence through any necessitous need of the community.

While there is a large number of careful and meritorious practitioners in all the schools, yet since the death of Frances Haguis no one ranks materially above his fellows, though probably one of the most advanced workers along surgical lines is Granville MacGowan.

Los Angeles city has a population of 103,000, and a physicians' list of 400, which gives one physician to each 250 of the population. Pasadena, with an approximate population of 10,000, and a physicians' list of 85, has a physician to each 120.

In common with other cities of this coast, it is a stamping-ground for hordes of irregular practitioners, many of whom are well-educated physicians but ethical outcasts from choice and through the commercial spirit of the age. Gathered from the State Register and from the public prints, there is an estimate of 15 per cent. who advertise in the public press, or employ cappers, among the regular and homœopathic physicians. Gathered from society records, about 33½ per cent. maintain strict ethical relations toward each other and the public, or at least endeavor to do so. But the professional standing of medicine is maintained by about 10 per cent.

HENRY SHERRY.

Editors MEDICAL TIMES:

I see in the issue of the TIMES on page 251 an item that says that forty cases of tetanus have been treated with only four deaths. I can hardly credit the report unless it is substantiated by a more full description of the cases and the manner of administering the remedy. I have just lost a little boy who was wounded in the palmar surface of the hand by a toy pistol without any bullet, but a part of the blank cartridge was forced under the skin and remained seven days, and then tetanus set in and ran its course, and death occurred on the fourth day. Antitoxin was administered on the first day of the appearance of the disease and continued up to the day of death.

I would like very much to know of the reliability of the report and the method of treatment, as I have seen several cases during my fifty years' practice, but one case of recovery, and that was of a spontaneous character, not due to any treatment, and the surroundings of a most unfavorable nature.

Any information, either private or through the TIMES, will be most gratefully appreciated.

A. J. WAKEFIELD, M.D.

Jacksonville, Fla., August 17, 1900.

HOSPITAL REPORTS.

CLINICAL LECTURE*.

LOUIS FAUGÈRES BISHOP, M.D.

Assistant Attending Physician, French Hospital; Attending Physician, Colored Hospital; Late Chairman, Section on Practice of Medicine, Academy of Medicine, New York City.

Case 1. Lobar Pneumonia.—This woman, K. K., is 36 years of age. Her past history is uneventful. Ten days ago she had severe pain in the right ear. The attack appeared somewhat like la grippe, but eight days ago she began to suffer from pain in the right side, she had headache and backache, was quite short of breath, and had some temperature. She was chilly but did not have any distinct chill. The following day I saw her and then I found that her respirations were increased, the pulse was rapid and the temperature 103. The physical examination showed, over the right lower lobe, a good deal of dullness, bronchial voice and breathing. The sputum, at the beginning, was blood-stained, but afterwards not so much so, but has been streaked from time to time since. She went on fairly well, running an even temperature, until I saw her day before yesterday, when I noticed that she was not doing so well. Her sputum, which had been frothy, had become again streaked with blood. Upon examination I found that the other base had become inflamed, showing bronchial voice and breathing and dullness. Of course, that accounted for her condition not being so good. Since day before yesterday I have not seen her. To-day I find her short of breath, and suffering from a good deal of pain in the left side, the original location of the pain being on the right side. For two days the sputum has been streaked with blood; to-day it is not so much in quantity, probably from the patient's weakness in coughing it up. Examination of the right lower lobe shows a distinct bronchial voice and breathing, giving way in places to more natural breathing, and the presence of a great many moist rales. This shows that resolution has commenced on the right side. To-day I find on the left side a pleuritic friction murmur and rales which obscure the intra-pulmonary condition, having beheld her two days ago and noted the signs of consolidation I feel confident that underlying the pleurisy now is consolidation of a pneumonia. Therefore, we have here a patient who began 10 days ago with an acute lobar pneumonia involving the right lower lobe of the lung, not of very severe type, because the temperature, pulse and respiration were only moderately severe. She did not appear to be very sick, so that even some of the nurses thought that the case was not one of importance compared to some of the others in the ward; they did not think a patient with pneumonia could look like that. The patient ran a fair course until about the time when defervescence could be expected, namely, the eighth day of the disease. Then, instead of defervescence taking place, as was expected, a pneumonic process started up in the left lower lobe and she now presents a repetition of the same symptoms as she had in the beginning. She has the same severe pain, expectoration and temperature, and she will have to go on through the pneumonic process in the left lower lobe as she did when it involved the right lower lobe. The upper lobes are clear and she

*Delivered in the wards of the Colored Hospital, December, 1899.

has a sufficient amount of lung left uninvolved to fulfill the office of respiration, so far as the functions are concerned, but the outlook is very grave on account of the strain on the heart.

Pain is the most prominent symptom and the relief of it is, of course, important. The most rational thing to do is to immobilize that side of the chest and apply warm, soothing poultices. If necessary a small amount of morphine may be allowed to help deaden the pain. This pain will soon give way and she then will be much more comfortable. Of course, she is very sick, but I see no reason why it is impossible for her to continue to improve and make a good recovery. The treatment has been practically expectant, although she has received a mixture as follows:

R Tincturæ Aconiti.....jss
Tincturæ Digitalisiij
Spiritus Frumenti.....iij
M. S. This to be taken every three hours.

Beside this she has been stimulated with whiskey. The amount of aconite and digitalis has not produced any appreciable effect. I think poultices and moderate stimulation will produce just as good effect. The use of aconite in pneumonia has been a subject much discussed, especially as to when and how it should be used. I believe myself that where patients can be watched all the time and the pulse, temperature and other conditions followed closely, that it is a drug capable of alleviating the symptoms of pneumonia in a marked degree by reducing the temperature and pulse, and lowering the sthenic qualities of the disease. In private practice I do not use it very much. I saw some very instructive experiments with aconite when house physician in Saint Luke's Hospital at a time when pneumonia was very common in New York. Five cases were taken and placed in five adjoining beds; these cases had advanced to about the same day of the disease. They were all treated with aconite, or aconitine, digitalin, and strychnine. At that time that combination was quite popular and much talked about. Those patients all recovered. The pulses were all markedly influenced by the treatment that alcoholic stimulants were not given until the crisis. They ran a mild course and all defervesced by crisis. The critical time was when the temperature fell; that is the dangerous time in these aconite pneumonias. When the temperature came down the pulse became feeble and irregular and it was very alarming indeed. I remember several of these cases in which the pulses seemed to be wavering, and strophanthus, whiskey, ammonia, coffee and every available stimulant was used to tide the patient through defervescence. When defervescence was passed their recoveries were uneventful. But, I soon became suspicious of one of the drugs of this combination. The aconitine was to reduce the temperature, and the digitalin and strychnin were to stimulate; it appeared to be a fine combination. But I became doubtful of the digitalin on account of its known unreliability, and I soon made up my mind that digitalin had practically no effect. I took five persons who were not sick and gave them one hundred doses in one hundred consecutive hours; I then took a sphygmographic tracing and no change was noted. So I think I am justified in speaking of cases treated by aconite as "aconite cases." Although they did well and all recovered, I confess I do not feel safe in using aconite so far as to get its physical effect in pneumonia. It may improve the patient's apparent condition, but I feel that it increases the danger in defervescence.

This patient has not shown any aconite symptoms and she cannot be referred to as a case treated by aconite. She has been treated expectantly. Pneumonia is a short disease and if we overfill the stomach with milk there will occur a great deal of flatulence which interferes with respiration. She has had broths and fluids generally. She had some pain and swelling of the left foot from a phlebitis, which has now improved. The pleurisy has heretofore been relieved by the poultices. There is no way to prevent the progression of a pneumonia from one lobe to another. In judging the patient's condition in pneumonia, not only should you feel the pulse, but always examine carefully the heart sounds, particularly the pulmonic second sound, because the pulmonary circulation and the systemic circulation are two different things, and the right side of the heart can fail to do the work well without the left side showing it.

Case 2. Sequelæ of Mild Acute Articular Rheumatism.—This girl, M. L., presents conditions of extreme interest to us. This young girl came into the hospital on the 14th of September, having previously suffered from an attack of rheumatism of mild degree, so mild that her illness was not considered to be of particular importance. I always consider rheumatism important in children. I always want them to be placed in bed and kept under treatment, because, even in the very mild cases, they may go on to the condition you see represented here. This child had a mild attack of rheumatism, was up and about, and an endocarditis developed insidiously until the valves became badly deformed. A good number of cases do not go on as rapidly as this one, but as the valves become incompetent, the heart does more work, acquiring a compensatory hypertrophy, so that the heart actually does its work, although in a laboring manner. That is what we hope will happen to this young girl, for, unfortunately, before her heart had had time to hypertrophy and get stronger and do its work with damaged valves, she was allowed to go about and the congestion set up changes in the kidneys, a complicating nephritis. Then, of course, she began to have œdema, and fluid accumulations in the different cavities of the body. As you can now see, there is an immense distension of the abdomen, although not so much so as last week. She has some œdema of the feet, although less now that she is lying in bed. Œdema of the face is also present. The pleural cavities contain a moderate amount of fluid. Since her presence in the hospital she has improved. Examination of the heart showed a systolic loud murmur when she entered and the heart's action was quite feeble, showing the heart had not compensated for its incompetent valves. The case is, to me, very interesting as showing this course of rheumatism in children; that when these heart cases suddenly develop a marked degree of œdema, it generally means involvement of the kidneys. The urine was loaded with albumin and was but moderate in amount. Now the albumin has diminished.

The treatment of the case consisted of absolute rest in bed, milk diet and the use of digitalis to increase the force of the heart. What we must do is to wait for the heart to recover its tone; then the congestion of the kidneys will clear up and the œdema gradually disappear and the acites go away. As a matter of course, if the girl should suffer a great deal from dyspnoea, we would remove the fluid from the abdominal cavity and the chest; but, so long as there is no interference with the functions, it is better to wait until the fluid goes

away. Here, we advocate the use of the aspirator, but not too frequently. Wherever we find the slightest signs of failure of the pulse or respiration we always remove the accumulation of fluid. I think we can look for a good recovery in this case, although the child will have a large heart, and probably in two or three months from now you may notice a pulsating, heaving condition in the chest; but she will be free from dropsy and fairly comfortable. The later history of these cases is not altogether satisfactory. The hypertrophied tissues have a tendency to degeneration. After a while these children develop large hearts, with more or less degeneration and they do not generally survive past middle life. It is an interesting fact in rheumatism in children that the valves are not only involved but also the fibrous structures, and with it the muscular tissues of the heart. Dr. William H. Thomson believes that myocarditis is not uncommon in children.

Case 3.—Tuberculosis Cutis; General Tuberculosis.—This next patient, E. J., is 13 years of age and presents an interesting case of tuberculosis, in which the disease seems to have involved some unusual structures. In the vast majority of tuberculous cases the involvement is of the lungs. Once in a while these organs appear to be immune and tuberculosis becomes extensively developed over the body, but escapes the vital parts. This patient has an involvement of a great many parts, the wrist, the hip, the knees, etc., etc. There is the typical joint with its cold abscess and she presents a great many lesions. There is also a superficial tuberculosis of the skin. She has not had any particular line of treatment, but the house physician concluded to try to cure the skin lesions by curetting and local applications. They have been curetted and iodoform ointment has been applied. This child had very extensive lesions, and yet she enjoyed a state of fairly good health. Strange as it may seem, there has not developed any pulmonary condition.

Case 4. Chronic Nephritis.—This woman, E. S., is 46 years of age, and has been sick a long time and suffers chiefly from feebleness and dyspnoea. So many of these cases have a sub-normal temperature. In this hospital, for some reason which I am unable to explain, a great many cases run an extremely low temperature. In this instance the temperature has been down to 94 degrees and has never been above normal but once or twice. Her most troublesome symptom is from the attacks of dyspnoea. The attacks I believe to be chiefly renal, but aggravated by her feeble heart and profound anæmia. We have been treating her on that basis. The attacks have been somewhat relieved by the administration of the compound spirits of ether and, sometimes, morphine. Diuretics and iron for the blood have been given. We trust that she will recover her strength and get about after a time.

Case 5. Acute Articular Rheumatism; Its Sequelæ.—This patient, G. H., is 41 years of age and has been sick since the 12th of June, but not helplessly so. During the past two months the abdomen has been swollen. This seems to be another case like the one already seen, in which there was a mild attack of articular rheumatism, followed by extensive involvement of the heart with concurrent symptoms. I find on examination of the heart's action that it is relatively feeble, rapid and irregular. Over the base there is a loud double systolic murmur. It is quite characteristic of an aortic lesion. Towards the apex there is a systolic murmur, and also a diastolic murmur, but not loud, so I think the patient probably suffers from some deformity of the aortic and

mitral valves both; although there is this extensive involvement of the valves the heart is not much hypertrophied; this patient also suffers from congestion of the kidneys, for the house physician found a great deal of albumin present in the urine. She has, as you see, general anasarca. The first thing to determine is if the chest contains fluid; if so, she must have relief in that direction. Yes, there is a certain amount of fluid in both sides of the chest. Here over the lower part of the lungs the breath sounds are absent; above there are a good many moist rales showing the lungs are also moderately congested. Now, with all this ascites we naturally would think of cirrhosis of the liver, but the extensive heart lesion, albumin in the urine, and the general anasarca are enough to account for all the symptoms. Of course, when the heart is that much crippled, the liver must be much congested and the portal circulation interfered with and then there is the tendency to ascites; so I would not say that the lesion in the liver was the essential lesion. The temperature, in this case, is subnormal.

The treatment consists in attempting to get the heart to do better work, watch carefully for any increase of the dyspnoea, waiting as long as we can without aspirating to get her in better shape.

Case 6. Pleuritis Sicca.—This woman, J. W., 33 years of age, came into the hospital with a history of pleurisy; she suffered from marked dyspnoea, so much so that it was quite alarming, and although the signs on the right side were only moderate and it was thought to be a moderate pleurisy, or thickened pleura, or a pleurisy with fibrous exudate; yet, we did not think it best to trust our diagnostic acumen without reporting to the puncture. The needle revealed no fluid. So the dyspnoea must have been partly neurotic, and partly due to pain. She has a dry pleurisy on the left side and is doing very well.

Case 7. Diabetic Gangrene.—This next patient, J. B., aged 57 years, came into the hospital suffering from a sore on one of her feet. An examination showed that one of the toes was the seat of a necrosis, and that there was a loss of vitality in the tissues. The diagnosis of diabetes, of course, immediately suggested itself and an examination of the urine demonstrated the presence of sugar. Now, both feet have become involved, and, at the present time, the process has gone on so that there is disiccation or drying up of the parts involved. Aluminum acetate is being used as a dressing. The line of demarkation is being formed about the ankle. Interesting questions are what is diabetes and why do the tissues behave in this way? Diabetes is a disease, so far as we know, characterized by the presence in the blood, and secondarily in the urine, of glucose. The origin and the causes are not well understood. Clinically, the important point here is that diabetes has a tendency to impair the vitality of the tissues, so that diabetics are liable to a great many complicating conditions, such as furunculosis, tuberculosis of the lungs, and, in extreme cases, liable to local gangrene. The chances are that diabetic gangrene commences with impaired circulation through disease of the blood vessels. My own belief is that patients in good health otherwise may have an equal amount of impairment of the circulation and yet the tissues maintain their vitality. Diabetic gangrene is a complicated condition due to vulnerability of the tissues and interference with circulation. Now, those of you who have been here before have seen other cases of gangrene from other causes. The most extraordinary case we have had happened in

a woman with spinal cord disease, myelitis. She came in here complaining of pain over the course of certain nerves on each side of the pelvis; we accounted for the pain on the supposition of some involvement of the cord. After a few days there was retention of the urine and then the characteristic symptoms of myelitis rapidly appeared. In the course of a few days she developed a large bed-sore on the back, which the nurses thought to be their fault and they felt badly. It was a case of gangrene due to disturbance of the nervous supply to the parts. The flesh for a time seemed to literally melt away. This was caused by cutting off the trophic influence of the nerves. When the spinal cord disease was recovered from she recovered the use of her limbs; the sore healed and she went out practically well. That case, together with this one, makes a picture of two types. This is one due to a disease which tends to destroy the vitality of the tissues. In that case the circulation was all right, the blood was all right, but the spinal cord, which presides over the nutrition, was out of order, and so the tissues melted away.

There is another type of gangrene which you have seen when we had a man with a popliteal aneurism which was operated upon, the collateral circulation was not re-established and the foot dried up and had to be amputated. That was a case of gangrene due to the deprivation of blood for the tissues. We sometimes have, in old people, a hardening of the blood vessels, in which there is gangrene which acts like the aneurism cases in that the parts dry up, and the life of the toe or foot is lost. These are three illustrations of gangrene such as you will find in ordinary practice.

SURGICAL CLINIC.*

BY ROBERT T. MORRIS, M.D.

Member American Medical Association; Academy of Medicine; Visiting Surgeon Post-Graduate and Ithaca City Hospitals, etc., etc.

Case 1. General Suppurative Peritonitis.—This case that I operated upon last Saturday will undoubtedly recover; she is doing nicely. The chief principles employed in this case were two in number, namely, flushing the pus out of the general peritoneal cavity, and flushing the veins with saline solution in such quantities that the emunctories could get the toxins out of the circulation. In other words we get the pus out of the general peritoneal cavity, and the toxins out of the circulatory system. We have a good many cases of general suppurative peritonitis here that get well, as many members of the class are aware. If you wash out the general peritoneal cavity and distend the veins with saline solution a good proportion of the patients get well; but if you leave out either one of these procedures they are almost certain to die. On the day following the operation this patient was not doing so well and I thought it perhaps would be better to give another transfusion; I did not find it necessary to do so; however, she is now doing nicely.

The longer a case of general suppurative peritonitis is under way the more leucocytes are manufactured for warring against the bacteria. At the end of a few hours the polynuclears are greatly increased in nature's attempt to destroy any bacteria that are present. Hyperleucocytosis is at the bottom of tissue necrosis; at the end of twenty-four hours there are so many polynuclears that, when the toxins begin to escape from the circula-

tion, they engage the bacteria in more active warfare and often make quick work of them. This matter of polynuclear leucocytosis is overlooked by many. Operators often get the pus out in a very dangerous manner, pulling out the bowels, besides washing out the peritoneal cavity, and doing other work that results disastrously to the patient; many surgeons, with the best of intentions, disable the reparative powers of their patients. These patients cannot stand such extensive work. The surgeon who takes out the bowels, handling them a great deal, washing them off and replacing them in the abdominal cavity, throws many a patient into the condition of shock. Finney, of Baltimore, reports some successful cases; but I do not think this is the operation that should be carried out. I believe that we should shock these patients as little as possible, that we should get the pus from the peritoneal cavity through small incisions, and the toxins from the blood with the acid of saline transfusion. All separate collections of pus should be broken down. Do this expeditiously and rapidly and it is not necessary that the bowels should come much into view. The importance of an established hyperleucocytosis is very often overlooked. If I operate upon a case of general suppurative peritonitis and prick my finger I die, yet the patient lives. Now, why is this? Because, in the case of suppurative peritonitis the hyperleucocytosis is established. The polynuclears are there to fight and kill the bacteria and to save the patient's life. Yet, in the case of a pricked finger, the bacteria get too good a start, grow too rapidly for the polynuclears. It is a question of which foe is entrenched.

Case 2. Double Inguinal Hernia.—This young girl has a double inguinal hernia. I will operate on one side while my assistant operates on the other. It is important, for cosmetic purposes, that the incisions should be symmetrical. With a pair of scissors I cut through the skin and fascia, exposing the external oblique aponeurosis, which I now split with my fingers, and the hernia bulges out. I am now looking for the ilio-inguinal nerve, which should be gotten out of the way or else the patient may complain of pain afterwards; I do not mind sacrificing this nerve, for it only supplies a small portion of the skin. The hernial sac is next brought up and stripped of its attachments. The peritoneal cavity is then opened and here is the round ligament presenting; it is displaced and I shall put it where it belongs. Everything is now exposed. Here is the Poupart's ligament, the inguinal canal, etc., and lying in the canal of Nuck is the round ligament, and the fold of peritoneum which follows it. As you know, this pouch of peritoneum which accompanies the round ligament along the inguinal canal is analogous to the processus vaginalis in the male. The internal oblique and transversalis muscles are next brought together beneath the lower reflexions of the ligament by means of strands of chromicized catgut (which lasts four weeks) and tied. As a final procedure I shall re-attach the round ligament. This peritoneal sac is an abnormal one and has adhesions, not the result, though, of any inflammatory process, but a congenital defect. The round ligament is now hooked up and held where it belongs. Next, I shall restore the continuity of the canal in the usual method, by sustaining the external oblique aponeurosis over the round ligament.

In closing the skin wound I shall use the subcuticular sutures in order to avoid stab cultures of the staphylococcus albus. The fat is held together by atmospheric pressure; this fact is so important that it should be kept

* Held at Post-Graduate Hospital, February 28, 1900.

in mind. Atmospheric pressure approximates the fat much better than any method we may use. Before closing the wound I will flush out with saline solution in order to float out any air that may be present in the wound. This subcuticular suture practically leaves no scar at all. Aristol is next applied, then a pad and gauze. This patient will be kept in bed eighteen days, although Dr. De Garmo allows them up in twelve days; I prefer leaving them quiet a little longer.

Dr. Henry Marcy, of Boston, seals the wounds with iodoform and collodion and it is a very good way. I have used it and the wounds healed kindly and practically left no scar. In using the subcuticular suture any scar that may be left will fade away and at the end of two years we would not realize that any operation had been performed.

This condition of double inguinal hernia in a woman is rather rare and is due to a congenital defect.

I will now direct my attention to the prepuce which adheres to the glans clitoridis. As I strip it back notice the glans bob out. The next thing is to do a circumcision. These preputial adhesions in girls cause the same symptoms as in boys. Nocturnal enuresis, reflex disturbances, such as epileptoid attacks, etc., may be relieved by circumcision after breaking up any adhesions that may exist. Preputial adhesions in girls are more common than in boys. It is frequently a cause of local eczema and other results of irritation. Pruritus about the vulva and excoriations may exist, due to decomposition of the smegma beneath the preputial adhesions. It is chiefly in little girls that the best results are obtained in stripping away these adhesions. Since the adhesions may re-form it is the best plan to take up the prepuce with a pair of forceps and snip it off, apply an aristol dressing and then let it alone.

RETROSPECTIVE DIETETICS.

Brewer's Yeast in Gastro-Enteritis of Children.—MM. Thiercelin and Chevrey (*Gaz. des Hop.*, Jan. 9, p. 29). An aperient is first administered. The intestine is then washed out, and a teaspoonful of dried yeast, or a dessertspoonful of fresh yeast, dissolved in 50 to 60 Gm. (2 fl. oz.) of boiled water at about 98° F. is then introduced by a rectal tube. The tube is withdrawn, and the child is kept still so as to retain the injection as long as possible. With the exception of the aperient, this process is repeated thrice daily. A *diète hydrique* is maintained. The writers state that the results are extremely encouraging.

Food for Nervous Individuals.—As a rule (*Healthy Home*) salt meat is not adapted to the requirements of nervous people, as nutritious juices go into the brine to a great extent. Fish of all kinds is good for them. Raw eggs, contrary to the common opinion, are not as digestible as those that have been well cooked. Good bread, sweet butter, and lean meat are the best food for the nerves. People troubled with insomnia and nervous starting from sleep and sensations of falling can often be cured by limiting themselves to a diet of milk alone for a time. An adult should take a pint at a meal, and take four meals daily. People with weakened nerves require frequently a larger quantity of water than those whose nerves and brains are strong. It aids the digestion of food by making it soluble, and seems to have a direct tonic effect.

Dietetic Treatment of Dilatation of the Stomach.—Instead of the dry diet usually imposed, Albu (*D. Med.*

Woch., March 8 and 15, 1900; *Jrnl. A. M. A.*) considers fluid diet indicated in cases of dilatation of the stomach, as the anatomic affection should not be taken into account as much as the disturbance in the physiologic function. He establishes it as a general principle that "the food should be food, and should be fluid." The ingestion of non-nutritious fluids, watery soups, etc., must be strictly forbidden. Milk should be given freely, rendered appetizing in every possible way. Meat should be finely chopped or given in jellies. Toast is not necessary; all bread, etc., is best dipped in milk. Beef, pork and all fats should be avoided, except a small amount of pure butter, not over 30 Gm. a day. The meals should be as limited as possible and follow each other, just avoiding interference with the last. The diet outlined is a cup of milk and two rolls at 8; at 9, a cup of cream; at 10, two soft eggs; at 11, a cup of cocoa with milk; at 12, a saucer of cereal food; at 1, one-quarter pound of sweetbreads and three table-spoonfuls of spinach; at 3, a cup of milk; at 4, a cup of chocolate and a zwieback; at 5, a cup of cream; at 6, a saucer of oatmeal soup with egg and plasmon, or four tablespoons of minced meat; at 7, soup with egg and a roll; at 8, a cup of milk, and another at 9. After lavage of the stomach morning and evening, he administers, through the sound, a mixture of plasmon, condensed milk, etc., representing a food value of 100 calories. After each meal the stomach is massaged, which strengthens the musculature and stimulates peristaltic movements. If there is great debility the patients stay in bed. Albu's experience includes fifty observations. In many cases of extreme stenosis the subjects increased in weight, and operation could be postponed indefinitely.

Food Chemicals.—Those articles of food which contain the largest percentage of nitrates are the best builders of the muscular system; phosphates are most needed for the nerves and brain; carbonates help to form the fat. Beans, peas, oats, salmon, eggs, beef, all contain plenty of nitrates; the same foods, and, in addition, codfish, contain an abundance of phosphates; butter, rice, cabbage, corn, beans, provide the carbonates. Eggs fried in butter, or codfish similarly treated, constitute a perfect flesh-former.

Bacon and Butter.—A. N. Bell, in his presidential address at the opening of the American Congress of Tuberculosis reported in the *Sanitarian* for May, tells us that consumption may be a thing of food. People who eat plenty of bacon and butter are not near so liable to contract the disease.

The exemption of the inhabitants of the arctic regions is caused by their fondness for fats of all kinds.

The author has made a careful study of this subject among the negroes, and he explains the great prevalence of consumption among them now as compared with ante-bellum days, as being a matter of food. When slaves they were supplied with an abundance of "hog and hominy" with other meats at least once a day.

Now "hog" at least is notable by its absence from the daily fare of most of them, and no other fat has taken its place; and so consumption among them is more than twice as prevalent.

In most cases we learn, when it is too late, that cod liver oil is good for consumption, but few have learned that food of the same character as cod liver oil, suitable for the table, is preventive of the disease.

He says that in sixty years experience he has never known a family or an individual that was brought up on

a liberal supply of butter and bacon that became tuberculous.

Confectionery in Army Rations.—The Germans about ten years ago introduced the use of candy into the diet of their soldiers, say the *Medical Record*. The idea was the outcome of experiments undertaken by the German Government. It was demonstrated that the addition of candy and chocolate to the regular ration greatly conduced to the health and endurance of the troops, and at the present time the army authorities in Germany issue cakes of chocolate and a limited amount of other confectionery. The British were the next to follow this example. Jam has also found great favor with the British war office, and 1,450,000 pounds have been dispatched to South Africa as a four months' supply to 116,000 troops. The United States is following in the same path, and candy has been added to the regular army rations of the American soldier. It is stated that one New York firm has shipped more than fifty tons of confectionery during the past year for the armies in the Philippines, Cuba, and Porto Rico. The candy supplied is of excellent quality, consisting of mixed chocolate creams, lemon drops, cocoanut maroons, and acidulated fruit drops. These are packed in tins specially designed to fit the pockets of a uniform coat. The question of providing jam with the army ration is also under consideration.

Diuretic Effects of Grapes.—Dr. Pecholier, of Montpellier (*Diet and Hygienic Gaz.*), has published a note on the diuretic effects of grapes, which would appear to confirm the diuretic action of glucose recently brought to notice. In two cases—one a patient with cardiac disease and the other the subject of hepatic cirrhosis with ascites—a "grape cure" was undertaken with the best results. In the former patient, notably, five pounds of grapes were daily ingested in three parts, and the diuresis produced was much more considerable than with milk, digitalis, or iodide potassium. This effect can only be attributed to the juice of the grape, the rest of the fruit having been rejected.

RETROSPECTIVE THERAPEUTICS.

Phosphorus in Rickets.—An extensive literature is quoted by E. Kossowitz (*Therap. Monatshft.*, April, 1900) to support his view that with the introduction of phosphorus a new era in the treatment of rickets has begun. Most authors are unanimous in the opinion that phosphorus aids the progress of ossification, and that the convulsions, larygospasm, insomnia and restlessness are better benefited by this than any other drug. The records of over a hundred thousand teach the author that phosphorus is the specific in rickets. He recommends it dissolved in cod-liver oil, in which form it keeps well for months.

Methylene-Blue in Urethritis.—It is best given in gelatine capsules in 1-grain doses three or four times a day. After the fourth day the dose may be reduced to twice a day. Given alone it sometimes causes irritation of the neck of the bladder, but when combined with oil of nutmeg there is no trouble of this kind. Oil of sandalwood is a desirable adjuvant because of its diuretic action and also on account of its sedative effect upon inflamed mucous membrane. Recent observations show that, when given internally, methylene-blue reappears unchanged in the urine within two hours. By giving four 1-grain doses of methylene-blue daily there is al-

ways enough of it in the urine to kill all the germs it comes in contact with. This is irrigation "from above," irrigation, not of the urethra alone, but of the entire urinary tract. By this method of irrigation there is no danger of forcing the infection into remote recesses of the genito-urinary organs.

Troublesome gastric symptoms sometimes follow the administration of the methylene-blue of the shops, but, with the following formula put up in elastic capsules, uniformly satisfactory results have been personally obtained:

R Methylene-blue.....1 grain
Oil of Nutmeg.....1 drop
Oil of Sandalwood.....2 drops

The above formula should not be used for more than ten days without intermission, and while giving it the patient should be instructed to drink freely of water.

Cancer Cured by Cancroin.—Cancroin has frequently been used in the non-surgical treatment of cancer, but, owing to the fact that this substance can be given only in small doses, the process of cure is at best only a slow one and the sufferers often lose patience, so that but little opportunity is afforded to test the true value of this method. A. Adamkiewicz (*Clin. Therap. Woch.*, March 25, 1900; *Med. News*), however, reports a well-advanced case of cancerous peritonitis in which the true worth of cancroin was settled beyond doubt. The main symptoms from which the patient was suffering were an enormous ascites and a rapidly advancing cachexia which demanded immediate aspiration. The examination of the fluid and the presence in the peritoneal cavity of numerous hard nodules made the diagnosis of cancer positive. Cancroin injections were then resorted to with the gratifying result that the dropsy did not recur and that the tumors steadily diminished in size. Two years later the patient was again seen by the author and appeared to be in perfect health.

Acute Chorea Treated with Large Doses of Arsenic.—Dr. Wm. Murray, of Newcastle-on-Tyne, England, in his excellent and most suggestive "Rough Notes on Remedies (*Med. Brief*), advocates the employment of fifteen drops of liquor arsenicalis—the liquor potassii arsenitis or Fowler's solution of the United States Pharmacopœia—three times a day in all cases of chorea in children. He insists that it should be taken with food, that is, in the middle of a meal. If it does not cure the patient in a week it must be dropped, as the toxic action of the drug would show itself. The old-fashioned idea that patients with chorea got well just as quickly on rest and feeding and without the administration of drugs is now exploded. The duration of the attack is immensely shortened by giving arsenic.

Animal Gastric Juice in Dyspepsia.—M. Launois reports a case of a man in a cachectic condition due to a very severe attack of dyspepsia who completely recovered after taking, daily, for six months, 500 grams of animal gastric juice. The feeding of animal gastric juice to human patients was first suggested by Mr. Fremont, of Vichy. This gastric juice is obtained as follows: An animal, preferably a dog in good health, is selected. The stomach is resected at its two extremities and the esophagus is anastomosed to the duodenum. The stomach thus maintains all its vascular and nervous connections and continues to secrete gastric juice in the usual quantity. The two extremities of the stomach are closed, the organ is fastened to the abdominal wall and

by means of a special valve-like opening made in the organ from 600 to 700 grams of natural gastric juice are daily collected. This gastric juice comes from an omnivorous animal and differs markedly from artificial gastric juices obtained by mixing dilute hydrochloric acid and pepsin.

MM. Barth and Le Gandre also report having obtained results equally remarkable by the use of this gastric juice in patients in whom all other methods of treatment had proved valueless.

M. Serrade has also observed three similar cases. What is remarkable about this mode of treatment is that it not only facilitates digestion, but in course of time the normal function of the stomach returns.

Intestinal Catarrhs of Children.—Dr. Carl Tittel, of Vienna (*Ga. Journal of Medicine and Surgery*, April, 1900), calls attention to the fact that the majority of the remedies which have been claimed to act directly upon the inflamed intestinal mucous membrane are objectionable, because of their irritating action upon the stomach, and because their effect becomes rapidly exhausted, sometimes even in the upper portion of the intestine. Recently he has resorted to tannopine, which he found free from these disadvantages, and has employed it in a large number of intestinal affections in children, comprising both enteritis due to simple dyspepsia and also intestinal catarrhs of other origin. It was usually prescribed by him without any admixture of other remedies in doses of two to seven grains, according to the age of the child, being given dry on the tongue, or in suspension. As no radical changes were made in the diet in any of these cases, the beneficial results are chiefly attributable to the use of tannopine. Under its administration the stools were diminished in number and became more consistent, and the admixture of mucus gradually decreased. Milder cases were improved or cured after two to three days' treatment. In those instances where on account of the conditions of the patient and the long duration of the disease preliminary disinfection of the bowel by means of calomel could not be employed, the administration of tannopine was very serviceable in two directions, both as an astringent and disinfectant.

THE NEWER TREATMENT.

REPORTED FROM VARIOUS CLINICS.

Mitral Stenosis.—This woman presents a typical case of well-marked mitral stenosis, almost unadulterated. It is heard at the apex, a low-pitched, long, hoarse murmur, not of equal pitch throughout. You know it by its sound. One great authority, Broadbent, calls it a rumbling sound. Austin Flint calls it blubbery. I do not appreciate that comparison and never could.

The patient traces this to an attack of rheumatism. Many cases of heart disease are rheumatic, even though there has never been an outbreak of articular rheumatism. Some think the growing pains of children are rheumatic.

An interesting point here is that the woman has never had a child at full term, while she has had several miscarriages: She is a large, well-looking woman; probably the congestion of the uterus induced by her cardiac disease is the cause of her pelvic trouble. The question comes here, what advice would you give to a woman with valvular heart disease as to marriage? Of course, you will have to answer her, but, fortunately for your responsibility, if your advice is unpalatable it would

not be taken. She has had cedema of the extremities, no doubt a bronchial catarrh also. Yet she looks pretty well nourished.

Here is a case of mitral regurgitation and you will have a great deal of difference in the two murmurs. This is faint, but is a good introduction to the one which will follow, which is so loud that you all can hear. There is at present no cedema.

There is no more laborious work than taking care of a house, and it is a wonder how these people can get on for so long a time. But if they go on with this laborious work the cedema, which appears at first in the morning only, will finally become permanent and involve all the superficial connective tissue, and may the serous cavities.

This next is a patient with a loud mitral regurgitation. There is ascites here. You will notice the murmur is higher pitched than in the first case of mitral stenosis. There are some features that are peculiar here, such as great enlargement of the veins over the thorax. You can't help thinking of some mediastinal obstruction. Sometimes you hear a loud murmur in your patient, say it is valvular heart disease, and some day your patient suddenly succumbs to what you find was an aneurism. The enlargement of the veins here would suggest that this was an aneurism. I don't say that it is; there is mitral regurgitation and there may be aneurism in addition. There is slight pulsation. The heart does not seem to extend much to the right. The veins are enlarged and when I have seen that before it was always due to mediastinal obstruction. When the cedema in heart disease is localized, as in this ascites, you may always be sure there is in addition a liver disease. I think myself there is a cirrhotic condition.

We naturally think of digitalis in all cases of heart disease, but we ought not to jump at it as a matter of course. In the one case there is no use in giving digitalis; there are no signs of disturbed compensation, and it might do harm. There is another set of cases in which it would do certain harm, when the heart is excitable—and digitalis increases that excitability. In these cases you do much more good with bromide of potassium. You can give bromide of potassium, ten to fifteen grains, with a couple of drops of tincture of aconite. Many authorities agree that one should not use digitalis in aortic disease. But there is scarcely ever a case in which digitalis is not indicated sooner or later. Here it is certainly indicated. The heart is feeble. There is portal obstruction, and we have a complicated case to deal with.

I would be inclined to give iodide of potassium and tincture of digitalis together, and there is nothing incompatible between aromatic spirit of ammonia and iodide of potassium. This makes not a very palatable mixture, but that is not of so much importance. Too much attention is paid to that nowadays. On the other hand, patients sometimes have more sense about it than the physician. I have had patients ask me not to attempt to make a nauseous dose agreeable.

I would prescribe, then:

R Potass. Iodidi	3 ij
Spt. Am. Arom.....	f 3 ss
Tr. Digit.....	f 3 ij
Aq.....	q. s. ad f 3 iij
Misce.	

Or make it with some flavoring ingredient if you prefer. Have it given in teaspoonful doses three times a day.

Feeding in Typhoid.—How soon will you begin the use of solid food? Milk is a solid food, of course. It is rendered solid when it reaches the stomach. But milk does not count for anything to eat at all by the average patient. There is no rule to lay down in regard to this. But you can stave off the time of their eating actual meat by giving solidified milk, as rennet or junket. Then, again, I think a good deal of gelatin as a food in convalescence and even in typhoid fever; not that it has much nourishment. But a patient can get along with less albuminous food if they take gelatin.

You may know of the Gelatin Commission of France. In 1802 the first Gelatin Commission was appointed. It had to determine the best and cheapest way of feeding the French army. This commission reported that gelatin was the most nutritious part of beef; that from one pound of bones nourishment equal to six pounds of meat could be extracted. They condemned bone buttons and bone ornaments as stealing away so much food from the poor. But it was very soon found out that gelatin was not what was claimed for it. In 1842 a second commission was appointed, and it reported that there was no nourishment whatever in gelatin, absolutely condemning it. In 1872 it was proved that gelatin was not nutritious, yet it was an albumin-saving food. And this is just the kind of food we want in typhoid fever and during convalescence. We can give it, mingling a certain amount of it with peptonized milk.

As to the time for allowing solid food I usually wait until the evening temperature has been normal for about a week. There have been cases of perforation after this period, but they are rare. If the meat is properly prepared and properly masticated I think there is little danger of perforation from it.

Manifestations of Gout in the Lung.—Asthma is the most common manifestation in pulmonary gout. The ordinary history of such a case is as follows: A person who has been suffering from gout will be seized with one or more fits of asthma at the time when a paroxysm of gout is expected instead of the articular seizure, or, again, attacks of articular gout and asthma may alternately appear. Bronchitis as a secondary pulmonary affection of gout has the peculiarities of what Laennec called dry catarrh. There is the sensation of depression, with fever and weight behind the sternum. A dry pleurisy more or less extended is a rare manifestation of gout. Pulmonary congestion, another gouty manifestation, appears often without cause, and at the time of amelioration of the symptoms in the great toe. It is characterized by the obscurity of the sounds, weakness of the vesicular murmur at the base of the lungs and exaggeration of fremitus. It appears and disappears with great rapidity. Sometimes these congestions take a more serious character and become an actual pneumonia, with extreme irregularity in their evolution. All these gouty pneumopathies have a more or less acute course. However, other gouty pneumopathies are chronic and deserve great care in their prognosis; these latter may last for years and even assume the characteristics of tubercular inflammation.

In the first cases uric acid has been described in the lung and in concretions in the thoracic aorta. The gouty asthma is to be treated by anti-spasmodics and injections of morphia, pulmonary congestions by revulsives and the ordinary treatment of pulmonary hyperemia. Special attention must be paid to the gouty diathesis. Various preparations of colchicum must be used. A good preparation is a pill made of powdered

colchicum seeds, sulphate of quinine and digitalis, to be used in the pulmonary congestions. The anti-gouty régime must be used—moderate animal food, no liquors and moderate use of mineral waters.

Dietetic Treatment of Bright's Disease.—In dietetic treatment of Bright's disease, as a general rule, dark meats such as wild fowls, and extracts of meat such as Liebig's, should be avoided. The chief danger in such foods is the toxic properties of the ptomaines they contain. In the periods when the disease is not active white meats can be used, all condiments to be avoided. Some patients bear fish badly, but shell-fish can be used in moderation. Some patients bear milk and vegetable diet badly, and in such meats can be cautiously used, the urine being frequently examined to see that the albumin does not increase. Eggs are a disputed article; sometimes they agree well and sometimes badly. When, however, the digestive tract is in good condition they usually are well borne; it acts as a diuretic, diminishes the albumin and increases the urea. Three and a half to four liters a day may be used. Certain patients cannot use an absolute milk diet, however, and in them a mixed diet is useful. A grape diet, skimmed milk or koumyss may be used to advantage. Most authors allow beer and a slight amount of light wines. In acute Bright's disease physical effort often increases the albuminuria. In this condition, and in the acute exacerbations of chronic nephritis, the patient should be in bed. In the chronic condition slight exercises are admissible, but where there is much polyuria or hypertrophy of the heart it is not to be permitted.

Patients should avoid being chilled, and in winter should remain in a temperature as near as possible 75 to 80 degrees and should wear flannel underclothing. The functions of the skin should be carefully looked after; baths, tepid and hot, followed by friction and massage, are recommended by most authors, though Lecuche and Talamon recommend the cold baths.

—A powerful electro-magnet has recently been installed at the Manhattan Eye and Ear Hospital. It will hold up 250 pounds, and will attract and seize a bunch of keys thrown in front of it. The first test was made on a man into whose eye a sliver of steel had cut, passing through into the vitreous fluid in the posterior chamber, where no surgical instrument could reach it without destroying the eye. The patient, strapped to an operating table, was moved gradually toward the magnet, which finally drew out the steel through the opening it had made when entering the eye. As it left the eye the steel sliver flew like a flash to the magnet and clung there, while the eye sank back to its natural position.

—Arterio-sclerosis is described by M. Huchard, in his treatise on diseases of the heart, as peculiarly the disease of physicians, politicians and financiers, their liability to which is largely due to their practicing professions in which emotion is often intensified and which involve great liability to overwork. In addition doctors experience unavoidable irregularities in hours, and sometimes continuous periods of work without rest. The single means of arresting and avoiding these consequences is by a diminution of anxiety and an avoidance of overwork, with measures taken as far as possible for repair of the wasted tissues.

MISCELLANY.

—Constant feeding is said to be the best remedy for nausea during pregnancy.

—Deaths from lightning in this country during 1899 numbered 562 out of 1,382 struck.

—A Russian has produced an engine whose motive power is bacteria fermentation. The fermentation is produced in a mixture of glucose, gelatine, acetic acid, yeast and acid phosphate in a copper vessel.

—A Sunday-school boy, eight years old, on his birthday, wishing to write a nice letter to his father, wrote: "Dear Papa:—Whenever I am tempted to do wrong, I think of you, and say, Get thee behind me, Satan."

—Among the new LL.D.'s of Edinburgh University this year was a lady, Miss Eleanor Omerod, adviser in entomology to the board of agriculture—the first female recipient of an honorary degree in law at Edinburgh.

—Escherich states (*Jrnl. A. M. A.*) that the promptest and most effective method of curing thrush and cleansing the mouth is to put a little boric acid and saccharin on a sterilized rag and give it to the infant to suck.

—Hare (*Therap. Gaz.*) used an extract made from the tops of asparagus in cases of general edema, with good effect upon the kidneys. The amount of urine was usually considerably increased in the course of a few days.

—Dr. Friedlander, of Wiesbaden, says *Electricity*, recommends galvanism to relieve the pain and irritation and to reduce the swellings caused by the bites of insects. The negative electrode is placed over the seat of the sting.

—Do not unjustly blame the local anesthetic for signs of collapse or fainting when the patient is watching an operation upon himself (*Medical Rec.*). It is better to cover the patient's eyes even in trivial procedures, and never to operate upon a standing patient.

—Baron Von Richthofen's explorations in China have disclosed a single anthracite coal field in one of the provinces of that empire which contains sufficient material to supply the coal demand of the entire world at the present rate of consumption for over 2,000 years.

—The Victoria Cross has been conferred on Surgeon-Major William Baptie, of the British army, for attending the wounded under fire at Colenso and for bringing in a wounded officer from the battlefield. Major Baptie was under a heavy fire all the time, and his horse was hit three times.

—Dr. Georges Apostoli, of Paris, who was for many years an ardent advocate of the treatment of uterine fibroids by means of electrolysis, died recently at the age of fifty-three years. He was a voluminous writer on electro-therapeutics, and was editor of a journal devoted to this subject.

—An Italian engineering periodical has published a method of sterilizing drinking water by means of peroxide of chlorine, which is so powerful a bactericide that three grammes will sterilize one cubic meter of water at a cost of less than 6½ centimes. This process has yielded satisfactory results at Ostend and elsewhere.

—According to the *Pharmaceutical Era*, out of 1,008,500 prescriptions examined, only 6 per cent. were written in the metric system. The information was obtained from druggists in forty-two States and Territories. This is not particularly encouraging, and shows that physicians do not seem to care much about trying the new system.

—A French Canadian living in a Rhode Island town was recently presented by his third wife with his forty-first child. His first wife gave birth to several pairs of twins, and his second presented him with three sets of triplets. Thirty-six of the children are living, and many of them have families of their own. Eight of the grandchildren also are parents.

—Mrs. Howard Gould has equipped an operating theater for the Mothers' and Babies' Hospital in this city, which will seat an audience of one hundred and twenty students. This, the *Medical Record* says, will be a very desirable addition to the teaching facilities of this growing institution, as obstetric clinics are now being held there in connection with four medical colleges.

—A Paris omnibus was upset last May and a medical student had his skull fractured. The driver and the company were held responsible, and Dr. Laugier testified that the injury to the skull had evidently caused a mental weakness, altho' there was no wound apparent at that date. The court awarded the student \$5,000, reserving the right to resume the case if his condition became aggravated.

—An original contribution to our knowledge of pathology was found in a recent examination at a medical college not a thousand miles away, says the *Colorado Medical Journal*. In a description of healing by first intention the statement was made that "in a clean incised wound the parts are brought together, the excessive hemorrhage is stopped, and the two surfaces glued together with a solution of continuity."

—Dr. T. F. Harrington (*Phila. Med. Jour.*, April 28, 1900) called attention to the occurrence of a widely dilated state of both pupils as an early sign of tuberculosis. Dr. Chmelicek Luhan, of New York (*ibid.*, May 26), confirms Dr. Harrington's observations, and adds that these dilated pupils are infallibly associated with peculiarly bright and glistening eyes, which show great susceptibility to the stimulus of light.

—Rudyard Kipling was recently in Bloemfontein. He made a tour of the hospitals, and his visits are described as being very good for the patients, who worshipped him, and were always immensely heartened by a few words from him. It is said that on one occasion he gave a bottle of opium to an officer, who, in handing a dose to a dysenteric patient, mentioned the name of the provider. The soldier tried to keep it as a memento instead of swallowing it.

—One hospital in New York has adopted a camera to record minutely the action of patients in epileptic fits and similar affections, and many moving pictures have been taken, showing the movements in walking of persons afflicted with locomotor ataxia. They are produced slowly on the screen, so that physicians are enabled to study the symptoms carefully. Moving pictures have been taken in Vienna, showing operations being performed by great surgeons.

—A foreign surgeon has put forward the suggestion

that appendicitis is caused by the habit of crossing the legs, which restricts the action of the digestive apparatus. The appendix is only loosely attached to the cecum, and there is always some half-digested food in the cecal bag. By crossing the legs there is liability that the undigested food may pass into the vermiform appendix and set up an inflammation. In a few hours pathological processes set in, and an attack of appendicitis is developed.

—As the result of extensive research Lombroso (*Gazz. Degli Ospedale*, April 8 and 15, *J. A. M. A.*) announces his conviction that the introduction of the bicycle has materially increased the number and the causes of cases of insanity. He admits that it has added much to the pleasures of life and put an end to the isolation of remote hamlets and farms, but at the same time its criminal influence is so great that the old formula, "Look for the woman," should be changed to "Look for the bicycle," in the majority of cases.

—The Court of Civil Appeals reaffirms, in the case of Carleton vs. Sloan, that a regular practising physician, holding a diploma from an accredited medical college chartered by the Legislature of the State in which it is situated, who has had such diploma duly filed and recorded in the county of his residence, where he has practised his profession, can recover for professional services rendered by him, notwithstanding he may never have obtained from a medical board appointed by a district judge of Texas a certificate to practice medicine.

—The *Journal of A. M. A.* has called attention to Richet's recent announcement that the bromides can be rendered doubly effective in the treatment of epilepsy by depriving the patients of salt in their food. Roux confirms this statement and asserts that the simplest manner of depriving the food of salt is to place subjects on a milk diet. He found very small amounts of bromides effective in arresting and preventing seizures when combined with a milk diet, while if salt were added to the milk the seizures appeared in one of his four patients.

—Monsieur C. Mocquery, president of the Academie des Sciences, Paris, has proposed that the conventional scales of thermometers should be abandoned, and one adopted starting from the absolute zero of temperature, which was so nearly obtained by Professor Dewar in his solidification of hydrogen. The absolute zero corresponds to the cessation of molecular vibration, and is calculated at 273° below zero of the centigrade thermometer. With such a scale the troublesome negative degrees (or "below zero") would be avoided, and existing thermometers could serve by altering their graduation.

—Dr. Chavernac, of Aix (France), has just designed a new army stretcher. It is a rigid contrivance made in two halves, and its advantage over the existing French ambulance is that the wounded man can be lifted off the ground without experiencing any shock or pain. The halves of the stretcher are placed on each side of the sufferer and by pressure they fold together under the patient's body, which is not touched with hands at all in the operation. When loaded the stretcher is mounted on a light bicycle carriage. Under the existing conditions of ambulance work in France, four men are required to lift the wounded man, but by the aid of the new stretcher only two attendants are required.

—The second international congress of hypnotism will be held in the Palais de Congress of the Paris Exposition from the 12th to the 16th of August. The membership fee is 20 francs. The congress has for its aim, first, to fix in a definite manner the terminology of the science of hypnotism, and second, to record and examine the acquisitions made up to the present time in the domain of this science. In order to give to the congress an exclusively scientific character, the committee will only accept communications relating to the chemical, medico-legal, psycho-physiological, pedagogic, and sociologic applications of hypnotism and the phenomena relating to it. All communications should be addressed to M. Berillon, 14 Rue Taitbout, Paris.

—Every soldier in the British army carries in his haversack what is known as the "Emergency Ration." This consists of a small tin cylinder, similar to a pocket spirit flask, divided into two compartments. One of these is filled with four ounces of cocoa paste, and the other contains a similar quantity of concentrated beef (pemmican). As its title implies, the ration is not to be used except in cases of the direst necessity, and if consumed in small quantities it will maintain strength for 36 hours. The tin has to be produced at parades and daily inspections, and the soldier who does not display his ration is severely dealt with. The tin must not be opened on any account, except by order of an officer. The ingredients may be either spread upon a biscuit like butter, or boiled up as cocoa or soup. Each tin contains sufficient quantities of the foodstuffs to make four pints of each.

—A celebrated American astronomer suffered acutely for over twelve years from an unknown trouble in his leg. The surgeons seemed unable to diagnose the case. He finally went to the Johns Hopkins Hospital, where an examination showed that the lameness was due to a diseased nerve in the leg. The patient was told that the operation would be painful, and in the nature of an experiment, as it had been tried only once before in France, in which instance it was successful. The patient declined anesthetics, as he desired to witness the operation as far as possible. The leg was opened and the nerve was found to be diseased, and the patient directed the surgeons to cut it out. The nerve was entirely removed, the wound closed and in ten days the patient was able to dress himself and walk about the hospital, and he is now able to go up and down stairs and walk half a mile at a time.

—According to the *Medical News* putrid meat is utilized in France, where nothing is allowed to go to waste, in a highly ingenious manner. Meat unfit for food and the bodies of animals that have died of disease are extensively used for the manufacture of superphosphates. The meat is placed in a vat containing sulphuric acid, which separates the resulting nitrogenous product from the fat. The dead animals are thrown whole into covered lead-lined vats full of sulphuric acid. If these animals have died of anthrax or glanders they are cut up before being thrown in. In the course of forty-eight hours the fat alone remains, and the animalized sulphuric acid, rich in nitrogenous substances, is drawn off and sent through an underground conduit to the superphosphate factory. Thus, instead of the unsanitary method of burying such putrid substances in the ground, they are effectually disposed of, all injurious germs being completely destroyed; and there results a product available in the manufacture of a valuable fertilizer.

ORIGINAL ARTICLES.

INSANITY IN ITS RELATION TO CRIME.

BY CHAUNCEY ADAMS, M.D., CONCORD, N. H.

"HISTORY is, indeed, little more than the register of the crimes, follies and misfortunes of mankind," says Edward Gibbon. And history is still repeating itself in recording the degeneracies of man, in his moral and intellectual states, than which no greater misfortune exists, undermining the fundamental principles upon which the whole social structure is built.

From time immemorial the deterrent effect of law has not been sufficient to relieve society of its disturbing elements, and that restless tide of discontent has been flowing on for ages, from a source inherent in the species. And yet, from the ashes of the past there come the triumphs of the present. The three types of the abnormal state, insanity, genius and crime, are none the less important or interesting now, because of their ancient history, but are becoming more intensely instructive as the new conception of these conditions becomes more thoroughly understood and more universally adopted. No longer among civilized nations is the man who is alienated from his fellow cast into a cell and treated like a beast, or the suspected witch burned at the stake; nor is the scientist found to-day, however profound his wisdom may be, who would venture to stake his reputation upon an assertion of just where sanity leaves off and insanity begins, or that genius and crime, are not, at least, borderline types of the insane state.

This apparent lack of knowledge shows, by no means, a retrogressive step, but, on the contrary, is an advance, in that it is an index of a higher, wiser and nobler conception of the true nature of that large class of unfortunates who have always proved a menace to society and must always be wards of the commonwealth.

How best to deal with insanity and crime is a problem of great importance, not alone in the halls of legislation, but in the most humble as well as in the most sumptuous home, where first are sown the seeds of degeneration that later develop into social unrest and irresponsibility.

The solution of this problem, it appears to me, involves a closer study and more scientific investigation along the lines of heredity, environment and food, as well as a better understanding of the true relations existing between the different types of mental degeneration, and embodies a more humane and philanthropic application of truths thus established.

It is with these points in view that I conceived the subject of this paper, and would ask your attention for a short time in a discussion of the same.

It is not my purpose to burden you with a long-drawn-out definition of insanity. What many bright men have found it so difficult to formulate, I shall not here try to accomplish; but as an aid in this discussion I will briefly define insanity as being a condition of disease or defect of the brain which invalidates mental integrity and moral responsibility.

There are types of insanity, as well as crime, that cannot logically be considered at this time, except incidentally. It is only those conditions, that possess a distinctly degenerative taint, incurably founded upon heredity and not dependent upon gross brain lesions, but involving the higher ideational areas, that I would call your attention to in this connection. In this class there are paranoia, epileptic insanity, periodical insanity,

states of arrested development, and instinctive criminality. All of these belong to the homicidal class, and consequently are a constant menace to society.

In the consideration of heredity, which is undeniably the foundation of nearly all forms of insanity and crime, it is instructive to study the feature of the transformation in type. An epileptic mother may give birth to a paranoiac and an alcoholic father to an imbecile child. Yet some forms of insanity pass down for generations unchanged. In the transmission of degenerative taints from criminal parents, this same transformation is often observed, insanity appearing in children of criminal ancestry and vice versa.

I know an imbecile young man born of a woman possessing somatic signs of degeneration, whose morals are bad, whose brothers and their children have, some of them, served time in prison, while others have barely escaped, being constantly in conflict with society. At Elmira Reformatory 13.6 per cent., or 499 convicts, were found to possess insane or epileptic heredity, and at Auburn, N. Y., 23 per cent. were clearly of the same inheritance. Virgilio found 196 out of 266 criminals affected by diseases that were hereditary. Kock discovered a morbid inheritance in 46 per cent. of criminals. Director found an insane, an epileptic, a suicidal and an alcoholic heredity in 36.6 per cent. of incendiaries, in 32.2 per cent. of thieves, in 28.7 of sexual offenders, and in 23.6 per cent. of sharpers. Morels cites a case in which the father was alcoholic, mother insane, and of the five children, one was a suicide, two became convicts, a daughter insane, and another an imbecile. Of 4,000 prisoners at Elmira, 38.7 per cent. were of drunken parents, and probably enough more to bring it up to 50 per cent.

The somatic diseases have proved no exception in this quite general rule of transformation in heredity, it being very common to find a phthisical history in the ancestry of an insane or criminal subject. Penta has shown that among the parents of 184 criminals only about 4 per cent. were quite healthy. Still another good authority has shown that disparity in the ages of the parents is a factor of no mean importance in the production of idiocy and imbecility, the latter being one of the most dangerous elements in civilized society.

Korosi's investigation of 24,000 cases resulted in the following deductions: Fathers under twenty years of age beget weak children; between twenty-five and forty they produce the strongest; and over forty the tendency is to weak offspring; mothers under thirty-five years of age have the most robust children; those of old parents are weak, and children conceived in inebriety and anger are bound to possess some sign of degeneration. According to the most careful investigations, the hereditary cause appears in about 40 per cent. of the insane. It has also been established beyond a doubt that acquired peculiarities are handed down to the offspring, provided they appear before conception occurs.

The transmission of hereditary taint invariably leads to marked degeneration of families, beginning perhaps as a neurosis in one generation and ending in some marked form of insanity, idiocy or criminality farther down the line. And it is often noticed that men of pronounced and unusual ability have belonged to families of decidedly morbid heredity, while a family may become extinct in the death of a genius. In the history of that celebrated Jukes family of New York, the most noted and thoroughly degenerated family known, is presented an extremely interesting as well as instructive

illustration of the influence of morbid heredity. Nothing particularly criminal is recorded of the founder of this family. He is known for his simple, lazy, indolent life, cheerful and companionable in a rough way, a hard drinker, gaining a frugal existence by hunting and fishing. He lived to old age, leaving a numerous progeny of illegitimate birth. Two of his sons married two out of five of the Jukes sisters, who were also illegitimate. From this fountain head have been traced descendants to the number of 709, while the probable aggregate is estimated to reach 1,200. A certain proportion of this family have been honest and industrious, but the vast majority are known as criminals, vagabonds, paupers and prostitutes. Among all the men only twenty were skilled workmen, ten of whom obtained their trade in prison. There were 76 criminals who committed 115 offenses. The percentage of prostitution was 52.4, which is appalling compared with the normal average of 1.66 per cent. Thus I might go on indefinitely showing facts, proving the immeasurable importance of heredity in the transmission of degeneration.

Next in importance to heredity comes environment as a cause in the determination and transmission of degenerative conditions. It has been stated with evident truth that society begets crime, and has the crime that properly belongs to it. And what is true of crime may be asserted with positiveness of its companion, insanity. It is now well established as a true characteristic of the disease, that paresis is the offspring of modern civilization, having been comparatively unknown among the negroes of this country previous to their being relieved of slavery and becoming a factor in the struggle for an existence. And among the higher civilized races, the Anglo-Saxon, the most active and brainy competitor in the contest for achievement, shows a higher percentage of this particular form of degeneracy, and, in fact, all the morbid types dependent upon over-exertion of nerve structure.

The centralization of people in large cities, with the attendant stimulation in competition in all the avenues of life; the crowding of the tenement house districts, where the most marked freedom of association and contact exist, where children from very birth, possessing by inheritance the morbid instincts of drunken and debased parents, are thrown into close and daily contact with the worst grades of society; all these are potent factors in throwing out of balance an organism already predisposed. Is it any wonder then that seed sown by inheritance, rooted in a fertile soil and nourished by social contagions should produce two such insocial types of humanity as the insane and criminal man? Many a person, although possessing a bad inheritance, could he have had an environment embodied in a quiet and elevated life, might have escaped the worst misfortune of the human race, mental and moral alienation. The reforms in prison life, so beautifully illustrated at Elmira, N. Y., are living examples of the truth of this statement.

The early brain life of a child is much like the delicate film upon which the photographer seeks to register the most sensitive impressions. Character of brain function is builded from the moment of conception. The influence of impressions is either good or bad, and I believe affects the integrity of brain tissue however early it may be received. Even long before the conceptional sphere becomes developed; yea, even in utero, impressions leave their influence on the cell life of the brain that materially affects its future functioning. One needs only to consider for a moment how readily the new-

born child responds to the soothing influence of the mother's methodical training, and falls into the little habits of life, to fully appreciate the powerful and debasing influence of the perceptions that have invaded the early mental life of the insane and criminal subject.

No more important question appeals to humanity today than the early training of child life, and should become doubly important upon reflecting for a moment upon the relative increase of insanity and crime.

Man's inheritance is his stock in trade; his environment is his opportunity to dispose of it; and his food is the agent by means of which nature permits him to develop and enlarge upon his estate. Too little importance is placed upon the subject of nutrition in infancy and childhood. It is far easier to suggest some prepared food to be tried than to study the individual needs of our patient and scientifically prescribe a diet that will fulfill the demands of his economy. During infancy and childhood the development of the brain and nervous system is not proportionate to that of other parts of the body, and their stability of function is consequently weak. This is the period when the foundation of future brain structure is being laid. Is it reasonable to think, then, that the violent and often protracted epileptoid seizures, so often induced by indigestion, can occur without doing permanent injury to that delicate nerve structure; or that a hydrocephalic brain can ever functionate up to its standard, when predisposed by weeks of exhaustion from malnutrition? Anything that interferes with the full development of the individual nerve cell must necessarily affect the integrity of future brain action, and the old scars of infancy and childhood reach their highest importance at a time when the memory of the parents no longer recalls the precise early history of the child's illness.

We now come to the consideration of those special types of degeneracy that form the basis of this paper. Of all the forms of insanity none bear a more interesting and important relation to society than paranoia; interesting because of its double character and concealed nature; important because it represents, in all its variations, the most violent and dangerous element to social order. Its effects may be local and general, varying from some overt individual act to the inciting of sedition or the institution of political and religious movements. The cases of Guiteau and Prendergast furnish striking examples of the former, while more remote history provides instances of the latter in the startling achievements of Joan of Arc; the wonderful influence of Peter the Hermit in swaying the minds of thousands; and in the life of Rousseau, whose peculiar teachings inspired the people of France with principles of political liberty, and whose influence was felt in the foundation of our own government. Paranoia, the so-called "Monomanie" of the French, and the "Veruecktheit" and "Wahnsinn" of the Germans, is a chronic mental disease based upon a neuro-degenerative taint, usually hereditary, but sometimes acquired, producing false conceptions that control the whole mental life of the subject. It is characterized by delusions of grandeur and persecution, systematized and permanent, by imperative conceptions and overmastering hallucinations. There is an ever present egoism that knows no submission. Although rarely a highly intellectual person, his delusions are defended by a logical reasoning that is fully up to his own standard, and did he not reason from a false hypothesis his defense might be unimpeachable. He lacks in criticism, reflection and judgment, as shown in the marked absurdity of his premises and his deductions therefrom.

He builds for himself a personality that harmonizes perfectly with his dominating false ideas. His delusions are always subjective; he is the central and most prominent figure around which all others are grouped. His hallucinations and delusions are primary symptoms, while in simple mania and melancholia they are secondary to the exalted and depressed conditions. He is a perfectly rational being in all other respects than his particular delusions that dominate and hold sway over his life as though one chamber of his intellectual sphere was diseased, while all the rest were normal. He is shrewd and cunning, and for years may be able to conceal his morbid traits, until finally he yields to the overmastering influence of his delusions and hallucinations, and becomes transformed into another being. Paranoia rarely appears before puberty, but early life is characterized by peculiar traits that reveal what the future may develop. As a child he is apt to be precocious, wise, and reasoning beyond his years, or quiet, morose, diffident and unsocial, keeping aloof from his fellows more than in all other forms of insanity. The paranoiac, possessing by inheritance a neurotic constitution, early displays what has been called "irritable weakness," which renders him extremely susceptible to influences of all kinds, being easily thrown into convulsions by reflex disturbances, and readily taking on some neurotic disease. At first, while the reasoning capacity is unaffected, he will put these morbid perceptions and ideas aside before fixed conceptions have been formed, but gradually his ability to do this becomes lost. His delusions may be transitional in character, first of persecution, then of grandeur; more often, however, the delusions of persecutions are the result of blasted hopes or achievements unattained, thinking that he is unappreciated because of jealousies and a desire to keep him down. Often the persecutory ideas do not appear until he is committed to an asylum or prison, when he at once attributes his incarceration to a plot to keep him from his just deserts. The delusions are usually of three kinds—religious, political, and erotic—and always systematized in that they are logically organized and earnestly defended against the most reasonable argument that can be made. The paranoiac is so firmly entrenched behind the bulwark of his delusions that nothing can dislodge him. His delusions may be single, hence the term monomania, or so completely possess his conceptional sphere as to cause a complete confusion of ideas.

I once knew a man confined in an insane hospital, who for eight years had led in the institution a quiet and uneventful life, enjoying daily parole, who had been committed for an attempt upon the life of a police officer while laboring under the delusion of persecution, that he was the victim of a conspiracy. To him nearly every person he met was an agent of this officer, who was bound to ruin him. This was his only delusion, and unless you accidentally hit upon it you would never discover that he was insane. He would reason out his own justification, in his desire and attempt to kill his persecutor, as clearly and logically as in years before. This man, after eight years of isolation, would have killed this officer with all the coolness and precision of his own mature judgment upon other matters upon which his premises and reasoning showed no insane condition. Not all men, however, are fortunate enough to be the victims of only one delusion. Rousseau was continually changing his location to escape fancied insults and persecutions of his friends, and finally died by his own hand to escape the imaginary persecutions continually heaped upon him. Yet this man left an impress

upon educational and political society that may be traced in French and American history down to the present time.

In paranoia the intellectual processes are fundamentally involved rather than the feelings and emotions. Although their impulsive actions may be attributed to a disturbed emotional state, they are really the outcome of false conceptions, imperative in their nature, and defended by a reasoning process, while in simple mania and melancholia, disturbed emotions and feelings are in the foreground.

Often there is no change of personality, the same being exalted to a higher degree of egotism, the lawyer forming the highest estimation of himself as such, and the printer being in his own opinion the very best in the business. But it is more usual for the personality to take on new form; royal blood to flow in the veins of him of humble birth; the lowly artisan to become the recognized lover of a princess; or the humble Christian to assume the character of a specially appointed agent of the Deity. This change is one of evolution, not a sudden transformation. Peculiar ideas have long been developing, and even the hallucinations, illusions, and delusions, a long time in over-mastering the volition and judgment; but there comes a time when the whole conceptional sphere becomes overpowered by the delusions of hallucinations that from this moment cease to be held in the background and dominate the whole man. Imperative conceptions are formed and impulsive acts are performed. Hallucinations, chiefly of hearing, are acted upon, all of which to the laity may represent the beginning, but which in reality, is only another stage in the process which has long been generating. We find, in other forms of insanity, as in paresis, alcoholic insanity, melancholia, and insanity of puberty, delusions of persecution, but in all there is lacking that logical reasoning that appears so characteristically in paranoia. In paresis the delusions are those of persecutions and grandeur, but are not systematized or logically and persistently defended. The paretic simply states his delusions, but will not defend them against argument. He has no reasons to offer in support of his strange beliefs.

It was not long since that I had the opportunity to examine a female for commitment, who had been for some time troubled with delusions of persecution. The ideas of grandeur did not appear prominently, yet the ego was somewhat exaggerated. She felt that her character was being assailed, not only by her old friends whom she had known from youth but more recent acquaintances were assailing her good name. Consequently she became suspicious and fearful of being poisoned, and utterly refused all food unless prepared by herself. Her delusions, it was found, were entirely groundless. She had reached the stage when her liberty was a menace to society. The only thing necessary to close the chapter of distorted reasoning with crime was the development of hallucinations of hearing and the imperative conceptions, either to put herself out of the way of her persecutors or the latter out of her way.

There is a class of individuals analogous to paranoiacs, in which hallucinations and delusions are absent, called often *monomania sine delirio*, in which are exhibited extreme egotism, indolence, irritability, suspicions, self-justification, defending their conduct, however bad, by persistent argument and plausible reasoning, and if appearing to give in to a reasonable argument will later show that it was only temporary in effect, that they have returned to the same justification of their acts; they are

angered easily and without cause, quarrelsome, and continually out of joint with society. This class bears the same relation to paranoia as melancholia without delusions bears to melancholia with delusions. They reason with facility, but are not reasonable in their premises and beliefs. The attempted slayer of Russell Sage undoubtedly belonged to this class, giving himself up to utter abandonment of consequences in his over-powering and imperative desire. It is not known that he had ever shown signs of mental impairment before. In the so-called querulous paranoia, hallucinations and illusions are absent. The conduct of the subject is apt to lead him into litigation in court, and the persistence of these efforts knows no bounds, and when finally ready to acknowledge his defeat he attributes it to the treachery of his friends. Often he will conduct his case with so much cunning that for a long time the absurdity of his plans is not evident. But ere long the ego is sure to reveal itself, and the desire for notoriety discloses the unsoundness of his mental state. It is now quite generally admitted that the Nihilist, Anarchist, and other religious and social agitators belong to this class of paranoiacs, and the variety of forms which is exhibited and the close approach to the border line of sanity so often appearing, renders it difficult to establish the plea of insanity. In the eyes of the law, the paranoiac is sane because he has knowledge of the right and wrong of the act and the consequences, but being over-mastered by delusions that impel him on, his morbid reasoning justifies himself.

Paranoia terminates in confusion which does not assume the importance of dementia. He is always able to answer simple questions and to engage in routine employment. This is a point in diagnosis. Parietic dementia sometimes, however, complicates paranoia.

ON THE CURE OF INSANITY BY THE OPERATIVE PROCEDURE—REFLEX ACTION TO THE BRAIN FROM PATHOLOGICAL ORGANS NOW RECOGNIZED AS A FREQUENT CAUSE OF INSANITY.

BY M. O. TERRY, M.D., UTICA, N. Y.

THE general practitioner or surgeon, it is feared, is inclined to look upon insanity, as most alienists do, as a mental derangement peculiar to the brain and of too mysterious a difficulty to consider in a serious light—that is, to the extent of making an attempt to cure by the same rational measures as are used in treating other medical and surgical cases. What is meant by this is, that if cases were taken in hand by surgeons and physicians, working together for the central thought—to restore the mind of the patient—there would be suddenly a vast improvement in the statistics of permanent cures of the insane. It would simply be necessary to use the ordinary hospital in carrying out this idea, but that special care would be necessary must be admitted.

Alienists are getting their eyes opened to some extent, but the majority will look at the trespasser upon their specialty when such views are uttered with eyes and mouth expressive of pity and cynicism. This is because superintendents of hospitals for the insane are rarely surgeons of reliable experience, and are hardly able to cope with pathological histology by the intelligent use of the knife.

If this position meets with approval by the progressive men of the profession it is not impossible that the

State will be called upon to place on the staff of each State hospital a salaried surgeon of recognized ability and matured experience. Such a position should be recompensed by not less than \$2,000 a year, the services of such surgeon to be given certainly once each week.

In an article recently published in the *Journal of the American Medical Association* for September it has been pretty clearly portrayed as to the status of the operative procedure in its relation to its curative effects on insanity. It is stated in this article that "it is the physician's duty to examine every insane woman for disease of the pelvic organs and to remedy traumatism, malformations and treat inflammatory troubles; that while only one-third or a little more receive mental cures another third gain some relief. As a rule all are benefited locally." It is also stated that "23.52 per cent. recover their minds, and 17.64 per cent. are improved." Hobb's percentages are higher than this. Price is quoted as saying that it is necessary to remove patients from insane institutions in order to cure them, intimating that the surroundings have a bad effect mentally.

I cannot record a large experience in studying results of operations on the insane, but the cases upon which I report may prove an additional stimulant for those whose opportunities are greater and whose interests by choice lie in this direction. I now regret that I have not kept a careful record of these cases, as I am fully aware how much more valuable such detail would be as a matter of reference. I shall, however, take up the medical treatment which I have given the paralyzed and the insane, as by so doing I can incidentally bring to your notice the value of an emulsion, of which I am not the agent but the originator. The "Brain Emulsion" is made from the brains of calves or sheep. Any good pharmacist can prepare it. The name of "Brain Emulsion" was given by my druggists, Howarth & Ballard, 183 Genesee street, Utica, N. Y. In its preparation preservatives are added, as salt and whiskey, but in cases where whiskey is objectionable eucalyptus may be substituted. There is also a portion of malt and hydrastis, with a slight adding of nux vomica. The process is rather a complicated one, as can be readily seen, but it can be combined in various ways, as I have frequently done, by using glycerine, flavors and tonic drugs. This is not looked upon by me as a prescription, but a combination of stimulants and preservatives given incidentally to obtain the principal factor, the histological properties of the brain and nervous elements residing in the brains of calves and sheep. The dose to be given is from a dessert to a tablespoonful.*

Many years ago there came under my care an aged gentleman who had had several strokes. He was long past seventy, and this stroke made him unconscious for several days, when he began to show a return of consciousness. He remained, however, in a semi-stupid condition, and it was supposed that it was merely a matter of time before the end. I then began the use of the above-mentioned emulsion in a crude condition, for not being able to give any directions for its manufacture I was obliged to express the brain nutriment by boiling and using an improvised press. Within twenty-four hours after its administration the mind cleared to such an extent that I questioned the

* In the Phosphagen of the Arlington Chemical Co. we have a phosphoric anhydride prepared from the brain, with which is combined 2m. tincture of nux vomica to the dose. We imagine the preparation is somewhat similar to that of Gen. Terry.—Ed.

improvement being due to the emulsion and stopped its use. A relapse followed within a few hours, but the same improvement followed its use when the brain had been cleared in regard to the use of the paralyzed arms and hands. After seven strokes, extending over an interval of as many years, the old gentleman retired from earth.

2. Case of melancholia in a woman about forty years of age. There was a loss of appetite, general emaciation, brooding over real and imaginary troubles, the symptoms becoming more marked week by week. In this case general orificial work was performed with the result of slowly turning her the other way. Three months later, the last I heard from her, she was continuing to improve, though not rapidly. There is satisfaction even in this case.

3. A man age about forty. Insanity in his mother's and father's families. As usual he had much treatment and several physicians. He was a business man, but gave it up, as it was found by his immediate family that his delusions made it unsafe for him to continue. He was very nervous and slept but little. Circumcised him and did some rectal work. Became worse and escaped from the hospital at an opportune moment. Was sent to a State hospital for several months, when he was discharged cured. He has remained well. For a time there was a threat made to the physician who placed the case in my care to prosecute. I finally had an interview with the former patient in my office, talked over his case with him, when he admitted the operation had really laid the foundation for his permanent cure. He is now attending to his regular duties. The illness dates back about eight years.

I gave no remedies in his case. I was just becoming cognizant of the fact that cases were made worse temporarily by the operative procedure and that after treatment was important to bridge them over to an equilibrium.

4. Young woman, age 16. She had all sorts of delusions, thinking that men were lying in wait for her when on the street, and were around in her home in invisible forms. Finally ascertained she was given to masturbation. Performed general orificial work and requested that she be taken to the State hospital. She was there in all about five months. Is now perfectly well and has remained so for six years.

5. Young woman, age 17. Had had the same unfortunate habit. Treatment, general orificial work. Gave various remedies for the nervousness which caused her to visit me. She claims to have discontinued the habit, and it is noted that she is much improved. I question the cure in this case. There was no insanity at any time.

6. This patient illustrates the effects of the operative procedure on a case of St. Vitus's dance in a boy seven years of age. All sorts of remedies had been tried for the distortions of the face, jerkings of the legs and paralysis of right arm. Circumcision cured him speedily without the use of a drug of any sort.

This case is referred to particularly at this point, although it may be considered outside of the subject in hand, for the reason that it shows in a marked degree the effect of reflexes and the relief afforded by the operative procedure.

It is well known that Sayre's investigation in this line in reference to the effects of circumcision showed very clearly how frequently St. Vitus's dance and coxalgia are relieved in children by circumcision. Notwithstanding his reports I visited a clinic in Philadelphia many years afterward, and when case after

case came up before the distinguished neurologist in charge of the clinic he ignored the suggestion I made as to the value of the operative procedure on the uncircumcised boy suffering with ladder paralysis and various nervous disorders, stating they were largely diseases peculiar to early spring, and that arsenic seemed to be the most effective remedy.

7. The last case, the most important of all, will show the value of the operation of thorough excision of the clitoris and its associate glands, and to some extent associate erectile tissue. This woman, whose age is 41, has no antecedent history in her family of insanity. She was for ten weeks in the Binghamton State Hospital. Fortunately she was in my office recently, so that I can give more of her history and treatment than I possessed before this date, September 6, 1900. She stated that she was in Ward No. 22, said to be "one of the worst in the hospital," in proof of which she remarked that two of her waists had been partially torn off by those confined with her in the ward. She described the effect of other patients upon her, and felt that she was made worse by the association. She also stated that it was given out to her indirectly that she was placed in the ward because her case was "hopeless." She was given no treatment, not even sleeping potions. Her friends, finding out this state of affairs, rescued her and brought her home. She was brought later to the Utica Homœopathic Hospital, when it was found she was melancholic, sleepless and had various delusions. Immediately after the operation it was necessary to have a special nurse, and in addition one other frequently to preserve any kind of behavior. She would scratch and tear the nurses' clothing. Her voice was heard two blocks away, so that the police came in to ascertain the cause of the disturbance. Once when I visited her she was handed a flower, but she refused it, and I was told to get out, as she had no use for the flower or myself. This is simply a sample of the condition of mind the patient was in after the operation. *She had been a regular masturbator for seven years*, and had become insane at the time she was taken to the Binghamton State Hospital ten weeks previously. I determined to do a most thorough operation and to remove as much erectile tissue as seemed necessary to destroy the sort of sensation she so morbidly craved.

The operation consisted in removing the clitoris, which corresponds to the corpora cavernosa of the penis; the bulbs of the clitoris, the bulbs of the vagina, or semi-bulbs of the clitoris, portions of the suspensory ligament of the clitoris, and of the erector clitoris muscle. Liberal portions were also removed from the labia majora and the labia minora, which showed the effects of unwarranted massage. In the removal of the erectile tissues the nervous supply was interrupted and the arterial supply practically cut off. For instance, the artery of the bulb of the vagina (bulbo-cavernosus), a branch of the internal pudic, which corresponds to the artery of the bulb of the penis, by being cut off will naturally prevent the erectile tissues being flushed, as it were, by a blood pressure calculated to arouse sensibility to a marked degree. After this excision the parts are brought together by silk worm gut so that the union will be absolute before the sutures are removed, which may not be under two weeks. Four will do no harm. It had been my intention to place the patient at once after the operation in a State hospital with a distinguished alienist, but correspondence revealed the fact that poor success had followed surgical efforts in this line.

I concluded therefore to conduct the case through on lines supported by previous observation—that was to control exaggerated symptoms developed from the effects of the operation by remedial measures until nature discovered that meddling by herself had ceased and until the nervous centers were equalized again. For the first condition I gave the following:

Bromide of soda, gr. 30; tinc. belladonna, m. i. This dose was given as often as necessary to quiet the patient. At times I gave tinc. cannabis m. 20 doses. *Salix nigra* was also given in 20 m. doses at times. In connection with these remedies she was put upon the Brain Emulsion, and from the first mental improvement was noticeable. The brain at once began to clear up so that within four weeks she was quiet and rational, and has remained so. In spite of our watchfulness the patient tore out the stitches once, necessitating a second suturing of the parts under chloroform.

As I critically interviewed the patient recently her color was noticeably improved, the anæmic condition having given place to a more healthful hue, and she had gained in weight considerably.

My conclusions are, therefore, that patients of this sort should first have the operation; second, personal attention and normal, healthy surroundings; or at least to be isolated from other insane patients; third, that the nervous excitability must be systematically controlled without interruption; fourth, that the physiological feeding of the nervous system has much to do with permanent recovery, and that the brain food suggested seems to be in line with this thought. Lastly, that iron should be given for an anæmic condition, and in this case the dialized was used. No particular stress was put upon diet other than to see that it was nutritious and easily assimilated; therefore, Liquid Perfection Food, bovine, eggs, milk, the cereals and fruits were those most given, avoiding heavy indigestible meats, only suitable for those given to manual labor.

Insanity from any cause is a sad state. If physical restoration to a normal anatomy can be accomplished by the surgical procedure, the excitement which follows controlled and the nervous system be given its needed food, with the results such as have been described, the unfortunates of this class may yet be restored to their former usefulness rather than remaining in the pitiable condition of a life of mental unconsciousness, a sad and pathetic sight for relatives and many times an immeasurable loss to the world.

GYNECOLOGICAL ELECTRO-THERAPY.

BY GEORGE ADAM, M.D., SAN FRANCISCO, CAL.

I THINK it advisable in presenting this paper to treat in a general way a few of the numerous conditions where indications exist for the employment of electricity in diseases of women, in preference to directing attention to one particular case, and more minutely describing its details.

I am quite aware I am treading on delicate ground, and that for various reasons this useful and powerful agent has not, and will not for some time, become as universal a favorite in gynecology as it deserves.

Stated broadly, the claims of electricity to a place in gynecological therapeutics are as follows: It regulates the circulation of the whole pelvic cavity, corrects nutritional faults, stimulates functional activity, stops hemorrhage, relieves pain, destroys microbes, causes retrogression of benign tumors, and in its action always tends toward the normal, thus restoring general and local health. Electricity, when scientifically

applied, is absolutely without danger or risk of either mutilation or more unfortunate results. In addition, its general sedative action in allaying the accompanying nervous irritability deserves consideration.

FIBROID TUMORS.

Apostoli's successful treatment of fibroid tumors by scientifically applied currents did more to attract the attention of the specialist in gynecology than any other event in the history of electro-therapeutics. This was largely owing to his persistent advocacy of his discovery, but no doubt the physical dimensions of the results obtained were a factor of importance. Apostoli's discovery attracted the attention of the most eminent surgeons—notably Dr. Thos. Keith, of London, who was the first to successfully remove large numbers of fibroids with the knife, and who afterwards announced in his work that he had given up all other treatment and adopted that of Apostoli.

The mode of action of electricity on fibroid tumors is greatly misunderstood. The large majority of physicians believe that there takes place a physical and chemical decomposition of the tumor, brought about by the electrolytic action of the galvanic current. This is indeed possible by using very large amperage, but at the risk of causing a mass of dead tissue around the electrodes, which, even if not dangerous, would not be desirable. What is desirable, and what happens from the use of currents of medium volume and duration, is the setting up of a retrograde metamorphosis, stimulating tissue waste and quickening lymphatic action so as to produce absorption and elimination of the products, thus causing a shrinkage of the whole tumor mass. This process continues long after the application has been made. As a result, the abnormal cell-proliferation throughout the tumor is diminished, and the growth and resistance of the cells of the normal surrounding tissues are promoted. Electricity stimulates the natural forces which by their comparative latent condition allowed the unnatural excess of cellular growth to take place.

The part of the body between the electrodes, that is the interpolar space or electrolyte, is brought under the influence of the current, and what takes place at the poles or electrodes will, in some degree, take place at the polar ends of each muscular fiber, and each individual cell within the electrolyte. In fact, every cell, every fiber, blood vessel, lymphatic and nerve filament constitute distinct electrolytes, with consequent electrolytic results, only the current being more diffused when passing through the body, the results within are not so pronounced as those that take place without or in immediate proximity to the electrodes.

All fibroid tumors in the early stages are suitable for electrical treatment, but there may exist some contraindications within the pelvis, such as a collection of pus, in which case the aggravation of the symptoms will positively announce that electricity is forbidden. Those tumors that have become very large and are abdominal rather than pelvic in situation, require care in selection, and of these the intramural variety are most amenable to treatment. However, there are certain round fibromas of very firm texture of the intramural or interstitial class that yield to treatment slowly. These are generally found to be mono-centric, and the cavity of the uterus is found stretched on one side of the tumor. On the other hand, when the cavity is more central, and the tumor is of a multi-nuclear character, we may safely prog-

nosticate considerable reduction in its size and symptomatic cure.

The submucous variety are also favorable cases, the stimulation of the muscular fibers of the uterus produces a denutritive effect on the tumor by cutting off the blood supply, thus aiding the direct electrical action; besides the tumor becomes more pedunculated and its situation brought more clearly within the uterine cavity.

The subperitoneal variety of fibroid tumors, especially when pedunculated, and when they have become abdominal in situation, are not easily reached by electrical applications, although success has been obtained by abdominal puncture. When located in Douglas' pouch, vaginal puncture through the posterior median line may be used, or the electrode may be placed in the vagina pressing against the tumor. The latter method I have found sufficient in one case.

The intrauterine and puncture methods of applying electricity are contraindicated when the tumor is a fibrocyst or an unusually soft myoma, and this is also true of all fibroids when accompanied by acute or purulent pelvic lesions. When there exists a non-purulent inflammation these vigorous methods should not be used until by vaginal applications the inflammatory condition subsides.

With regard to the methods of application there are two points of importance that ought to be kept constantly in view: First—That success depends on the direct action of the agent on the cells of the tumor, and second, on the inhibition of its blood supply by the general action of the current on the blood vessels in the interpolar space, but particularly by its stimulation of the uterine muscular fibers surrounding the pedicle, thus ligating the arteries at the main source of supply. It will thus be seen that the intrauterine method is the one most generally indicated.

Vaginal and abdominal puncture, and more particularly the last, should not be undertaken without special study in this direction, and perhaps should be left to the electro-gynecological specialist.

The following cases will sufficiently illustrate intrauterine applications:

Mrs. E. L., aged 45 years, came to my office August 24, 1897. She was suffering from headaches, particularly referred to the back of the eyes, backache in the lumbar region, nausea, pains over lower abdomen, and had considerable abdominal distension. There was a stubborn constipation, having no movement without cathartics. The menses were regular and of normal amount. On making a vaginal examination I found a tumor extending upward in the median line to within one and one-half inches of the umbilicus, and with lateral branches in the broad ligament. The sound showed the uterine cavity five inches in length. I made the diagnosis of a multinuclear interstitial fibroid, and explained to the patient the nature of the growth. I told her there was one of two things to do—either to use the knife or apply electricity. She afterwards consulted two physicians at the polyclinic, and with me saw Dr. W. H. Mays. They all confirmed the diagnosis, but were agreed that removal of the uterus was necessary. It was a month later when I saw her again. She had made up her mind to have the electrical treatment. This was commenced by the use of mild galvanic and high tension faradic currents in order to overcome the painful condition of the parts, the positive pole being placed in the vagina and the negative on the abdomen.

After two weeks the intrauterine electrode was employed once a week, commencing with a current of 30 milliamperes and gradually raising it, until the fourth week of the treatment she received 240 milliamperes, which I found to be the highest point of tolerance. The length of *seances* was about ten minutes, during seven of which the current was at the maximum. After two of these applications she was confined to the bed for one day. In the interval between the others she came to the office and received treatment by the faradic current. For the next three months she received a bimonthly galvanic intrauterine application of 100 to 120 milliamperes. In the intervening time, on an average of three times a week, the high tension faradic current by the bipolar method was employed. She was under observation for about six months more, during which time, twice a month, the constant current in moderate doses of 40 to 60 milliamperes was applied, generally followed by faradization. The highest point of the tumor had now retreated to three and one-half inches from the navel, and the uterine cavity was less than three and one-half inches in length. She had no backache, headache, nor other symptoms, and was able to do her work, which was hard. In fact, she was symptomatically cured, and would not have known that any part of the tumor remained if not told that such was the case. It is now two years since treatment was stopped; there has been no return of the symptoms, and she is now, and has been, working to support herself and sick daughter.

The next case will illustrate what can be done by merely vaginal treatment. Mrs. E. J. S., age 34 years, a widow with one child, was seen by me in September, 1898. She complained of abdominal soreness, and cramps with constipation, painful urination, headaches—frontal and on top. She menstruated every two weeks, and sometimes almost continuously, and had been partly confined to the bed for two months. Her legs were edematous, and there was some distension of the abdomen, and anemia existed from loss of blood. Vaginal examination revealed a large tumor behind the uterus, completely filling Douglas' cul-de-sac, but entirely contained within the pelvis. The uterus was pushed forward against the bladder. The diagnosis was a fibroid. She afterwards consulted Dr. Winslow Anderson, who confirmed this diagnosis.

The treatment consisted of tri-weekly vaginal applications of the galvanic current, the active pole, which was the positive, being placed behind the uterus and pressed firmly against the tumor, the indifferent pole being placed over the abdomen. The current was increased from 30 milliamperes to 100, which was the maximum strength at any sitting. When she complained of soreness from the effects of treatment by galvanization, faradization was resorted to. The treatment was continued for three months when she felt perfectly well, all the symptoms having disappeared. She had returned to work after the first month. From the third to the sixth month the treatment was of an irregular character, the patient coming to the office when convenient. She has been under observation since that time and there has been no return of the symptoms. The tumor is still in evidence, although much reduced in size, allowing the uterus to approach its natural position, thus relieving the pressure on the bladder. If the treatment had been kept up for a longer period there is no doubt that the tumor would have been further reduced, and perhaps entirely disappeared, but the occupation of

the patient prohibited further attendance. The vaginal method was employed in this case because of the contraindication of intrauterine application at the commencement of treatment. Afterwards it was continued on account of it proving satisfactory, and it being desirable that the patient should be kept at work.

In reference to selection of the positive or negative for the active pole it may be said that when there is a hemorrhage, and the tumor a fibro-myoma, soft in character, the positive is indicated. On the other hand, when there exists a growth of firm texture, with no hemorrhage, the negative is the better pole. Again, there are cases where the poles can be used alternately, the one correcting or preventing the unpleasant results of the other. The judgment of the operator should be such as to enable him to differentiate polar action and meet the exigencies of individual cases. The employment of the faradic current is of the greatest importance. Practically speaking, although devoid of electrolytic action, it nevertheless does subsidiary, but none the less essential, work in stimulating the lymphatics, causing absorption of electrolytic products, allaying nerve irritability, and in general is indicated in the preparatory treatment for the next galvanic *seance*.

DISPLACEMENTS OF THE UTERUS.

In the treatment of displacements of the uterus it is of the first importance to ascertain the initial causes of the condition and the sequential accompanying lesions. Other than a mere mechanical cause, which is rare, these may be stated as congestion, hyperplasia, lacerated or atrophied supports and fixation. It is not too much to say that with the exception of laceration, some form or forms of electrical application will meet the requirements for the successful treatment of the pathologic conditions, and following the removal of the causes the correction of the displacements, either by the same treatment alone or assisted by other means, will, in the majority of cases, be accomplished.

It is essential for the success of the treatment that at its commencement particular attention should be given to the hyperplasia, or to its causes, which may be an endometritis or other coexisting inflammation. The distress and the painful symptoms, which the patient complains of, will thus be relieved; at the same time a concurrent treatment may be instituted to strengthen the muscular supports. A moment's reflection will at once convince any one that merely replacing the uterus by means of a pessary will tend to add to the insufficiency of the muscular structures by relieving them of all duty, whereas the reverse is the case by employing electrical gymnastic treatment. The one tends to bring about a physiological state, the other by causing atrophy of the muscular layer of the vagina and round ligaments hastens fatty degeneration and renders the primary lesions permanently incurable.

The successful use of electricity in displacements rests on its power of sedation to painful and inflammatory conditions, on its stimulating action on muscular tissue, and on its influence in liquefying and absorbing exudations. By its electrolytic, cataphoretic and electrotonic properties these results are accomplished.

Scientifically applied currents must, of necessity, vary as to the method, according to the symptoms presented, and to obtain the desired degree of success requires a special knowledge of gynecological pathol-

ogy added to a special knowledge of electro-therapy. Painful and inflammatory conditions approaching acuteness need to be subdued by vaginal applications, using the positive pole of the galvanic current, or the high tension faradic current, and preferably the bipolar method. If the uterus is fixed in its abnormal position, vaginal galvanic and faradic applications should be made until a certain degree of mobility is obtained, and here the negative pole for its power of softening exudations and promoting absorption is indicated. After there is a certain degree of mobility the intrauterine method may be employed, but this will vary as to pole, dosage and length of *seance*, according to the sensitiveness of the endometrium, and according to the existence or non-existence of an endometritis. Carefully applied positive galvanic currents of small amperage will soon overcome the sensitiveness of the membrane, and then the negative pole can be used. Vaginal treatments can be interspersed, if necessary, with intrauterine applications, thus correcting any unpleasant symptoms set up.

When there are no acute symptoms, or when those present are subdued, negative electrolysis assisted by the slow interrupted primary faradic current should be resorted to. Contractions and relaxations, say sixty times a minute, produced by the faradic interrupted current of quantity on the pelvic muscular tissue, have a powerful influence in breaking up adhesions, the whole pelvis is seen to vibrate under current influence, but caution must be had in using this method, for if there exist any pelvic acute inflammatory action harm may result.

A thick, tenacious uterine secretion calls for the liquefying action of negative galvanization, even if positive polar sedation were otherwise indicated. The catarrhal secretion being thinned, the endometrium cleansed, and the canal rendered patulous for drainage by cathodal applications, the anode will be more effectively applied. In using the anode in the cavity of the uterus, especially with large currents, there will be considerable adhesion of the instrument to the endometrium, and care ought to be exercised in withdrawing by cautiously rotating the electrode; otherwise injury to the membrane may result.

In using currents in pelvic disease, as elsewhere, dosage is important. In general, it may be said that acute or painful conditions require carefully applied currents of small amperage; while chronic troubles, and especially if electrolytic action is indicated, require larger force. Pain at the internal electrode is a signal for caution, but if at the indifferent pole it is a notice for a larger electrode and a better conducting surface. Consciousness of the current at the internal electrode shows the approaching limit of tolerance. The faradic current is best measured by the sensations of the patient. It should never be applied to the extent of causing pain. When stimulating currents are used it is better to stop abruptly; when the current is sedative gradually reduce it to zero.

The following case will in part exemplify the method:

Miss B., aged 24 years, a bookkeeper, consulted me about four years ago. She had a retroflexion and had previously been treated by a number of physicians with pessaries, tampons, etc., but with no permanent improvement. They had proposed a surgical operation, but this was not consented to.

For the next two years the treatment was about as follows: I would insert a pessary, which would make her comfortable for about a month. As she had to

stand a great deal she would then feel uncomfortable, and tampons would be employed for a week or two and the pessary re-inserted. At the end of two years nothing had been gained but of a temporary nature, for as soon as the artificial supports were removed the uterus would resume its retroflexed position. With the displacement there coexisted a thick leucorrheal discharge, an endometritis and dysmenorrhea. These were only partially and temporarily relieved by the treatment. No doubt, the character of the patient's employment was an important factor in the causality of these relapses.

At this time I resolved to try electrical treatment. In such a chronic case, with muscular atrophy or degeneration, it would be needless to expect immediate results. For the temporary support of the uterus, therefore, I determined on the retention of the pessary. The office visits were irregularly made, as the patient's employment interfered. However, from one to four times a week the high-tension induced current was applied, with considerable gain in the comfort of the patient and a modification of the symptoms at the end of the first month. For the relief of the tenacious discharge and endometritis two applications of intrauterine negative galvanization were made, followed by six applications of the positive pole. These were made about once a week, together with concurrent faradic treatment, as before mentioned. This brought us to the end of the third month of the treatment with an all-around improvement.

I then changed the character of the electrical treatment to a more stimulating one and the slowly interrupted, induced current of quantity was selected. This treatment was kept up for nine months, making in all one year of electrical treatment. During this time the pessary had never been removed, except for the purpose of applying the current, when it was immediately replaced. It was now removed and the treatment by the current alone continued for three months more. At the end of fifteen months of treatment it was found that the uterus maintained its position, being slightly inclined backward, and the symptoms had permanently disappeared.

DYSMENORRHEA.

In a large majority of these cases there exists a hyperesthesia of the endometrium, especially at the os internum, and this is often combined with stenosis and flexion; not uncommonly there exists imperfect development with induration or degeneration. Painful menstruation may be due to endometritis, and this may or may not take on the form of the membranous variety. Disease external to the uterus may co-exist or be the cause. The pain may be accompanied by profuse or scanty menstruation.

In the electric current will be found an effective means of combating the evils. Positive or negative galvanization, or the faradic current of high tension, or the faradic current of quantity being indicated according to the symptoms and their causes, although some of the cases are relieved by external or vaginal applications, yet the intrauterine method will generally be required.

The following case will illustrate the procedure:

Miss B., aged 18 years, had been menstruating for six years, during three of which she had suffered great pain, being confined to the house, and even to the bed, for two or three days every period. When she came to the office she said she wanted electrical treatment for the pains, but refused to be examined. The high-tension faradic current was applied externally three

times a week. On next menstruation there was no apparent improvement. When she returned she was willing to submit to any treatment in order to get rid of the pain. This was commenced by vaginal dilatation by means of a small speculum, which was sufficiently accomplished in one week. As the menses were scanty the method of electrical treatment selected was intrauterine negative galvanization. Placing the positive electrode over the abdomen, and introducing the vaginal speculum, the intrauterine electrode was gently pressed against the os, which it barely entered, then carefully turning on the current it was gradually raised until marking 10 milliamperes; continuing the pressure the electrode slowly passed to the internal os. As at this point the patient complained of pain I carefully reversed the controller to zero, withdrew the instruments and inserted a tampon of boro-glycerin. Two days afterwards, at the next sitting, the electrode entered freely to the internal os, and the current being made it was raised to 15 milliamperes, and after a few minutes the electrode with slight pressure reached the fundus. The intrauterine applications were made twice a week, alternating with vaginal bipolar high tension faradization up to next menstrual period. Afterwards irregularly for one month more. The menses are now more profuse and without pain, and the patient is happy.

UTERINE ENLARGEMENTS.

The two following cases will bear comparison: Mrs. J., age 39 years, had been operated upon five years ago for lacerated cervix. She had been suffering from headaches, backaches, pain and heaviness in the lower extremities. With the exception of being "lighter on her feet," as she explained, there was no amelioration of the symptoms after the operation.

These continued for two and a half years, when another pregnancy partially relieved her. Six months ago I was called and found her miscarrying at the third month. She had irregular pains for three weeks, with considerable hemorrhage. The uterine cavity was emptied, and everything went well. About six weeks afterwards she consulted me at my office on account of excessive and prolonged menstruation. Examination showed the cavity of the uterus to be three and three-quarter inches in length, and escaping from the os was a profuse sanguineous discharge. She complained of headache and backache.

Positive intrauterine galvanization was applied, and, as she tolerated the current well, I allowed it to reach 75 milliamperes. During the next three weeks she received eight such applications, generally succeeded by the slowly interrupted induced current. The menstruation then due was normal, and at the succeeding visit the measurements of the uterus were also normal. The patient stated that she felt better than she had done since her first pregnancy. Irregular treatment was given for two more months, when she was dismissed as cured.

Mrs. R., age 28 years; had four children. After last confinement had felt miserable, with pain and weakness in back, pain over bladder and ovaries, and headache. One year and a half subsequent to this confinement she had a miscarriage induced by her condition. When the menses next appeared she flowed for two weeks, and for this she consulted me at my office. Examination showed a unilateral laceration of the cervix involving the whole of the intravaginal portion. The ovaries and tubes were tender and congested, the uterus enlarged and giving exit to a bloody discharge. I gave her a positive intrauterine galvanic

application of 30 milliamperes for ten minutes. Next day I repeated the application, increased to 75 milliamperes, which stopped the blood entirely, and there was marked improvement in the general condition. The applications were then repeated every second day for the next week, and then twice a week until the next menstruation, which was rather profuse and lasted eight days. During the next month she received six galvanic intrauterine applications, alternating with slowly interrupted induced current of quantity, when the menstrual flow became normal, the tenderness of the ovaries and tubes had disappeared, the uterus was of normal size, and the patient felt better than she had for two years. She is at this time seven months' pregnant, and feels comfortable and well.

In comparing these two cases it is found that both had laceration of the cervix. No. 1 was operated upon, No. 2 was not; both continued to suffer. No. 1 was partly relieved by a subsequent pregnancy, but afterwards miscarried, and was entirely relieved by electrical treatment. No. 2 miscarried and was relieved by the same applications, and is now well advanced in pregnancy. I am not to be understood as advocating surgical non-interference in such cases, but I say this: that surgeons who operate for the purpose of relieving certain symptoms, and fail, should understand that there is an infallible agent in electricity for accomplishing symptomatic cures.

The comparison also proves that the laceration does not directly cause pain, but may set up other conditions which produce the pain, and that, although the first cause be removed, the sequential pathological condition may remain. Further, that the electric current is capable of removing all the sequential pathological conditions and symptoms, and, by strengthening the parts, enables them to resist encroachment by the primary lesions.

An important consideration in connection with pelvic pathological conditions in which cervical laceration is a prominent feature is that when the latter takes place the parts are weakened and enlarged by pregnancy. The employment of electricity, so as to bring about a proper involution, will render the laceration harmless. This I have often demonstrated in extreme cases.

DIAGNOSTIC VALUE.

The suspected existence of cystic or cancerous degeneration will be confirmed by the absence of responsive symptomatic improvement when current applications are made, but in these conditions no distinct post-operative disturbance will ensue. A pelvic pus collection contraindicates the use of electricity and will be announced by post-operative symptomatic exacerbations. Acute inflammatory action, taking place in any part of the pelvic cavity, will announce itself when large amperage is employed, and more especially by the intrauterine method.

It must be noted, however, in this connection, that intensification of the existing symptoms, or even the creating of new ones, may immediately follow electrical *seances* at the commencement of the treatment, when the ultimate reactions are entirely beneficial and when no contraindication exists. An electro-therapist should not be discouraged in any case by the want of success of one or a few applications, as the fault may rest with the dosage, length of *seance*, mode of application or kind of current.

Dr. Bulkley's clinical lectures, at 4.15 P. M., Wednesdays, at Skin and Cancer Hospital are free to physicians.

THE PREVENTION OF BLINDNESS BY THE ADOPTION OF LAWS COMPELLING HYGIENIC PRECAUTIONS.

BY WALTER B. JOHNSON, M.D., PATERSON, N. J.

THE subject is particularly adapted to the consideration of the American Public Health Association in consequence of the intimate relation which it bears to the ordinary duties which are daily performed by the officers of the various State and municipal Boards of Health.

Blindness or impaired ocular functions occurring as the result of infectious and contagious diseases, unsanitary or other conditions, present etiological factors which could be considered amenable to relief or cure as a result of laws compelling hygienic precautions, and the causes may be classified in part as follows:

1. Ophthalmia neonatorum.
2. Purulent ophthalmia (gonorrhoeal).
3. Trachoma.
4. Contagious and infectious diseases.
5. Traumatism and poisoning.
6. Refractive errors.

If it be assumed, as the statistics would seem to indicate, that from thirty to forty per cent. of the blindness occurring as a result of the diseases here enumerated is avoidable under laws making compulsory hygienic conditions favorable to the prevention of these diseases. The necessity for the enactment and operation of such laws as will place this class of diseases under the complete and immediate supervision of health boards is apparent.

The beneficial effect of the laws at present in operation has been so generally admitted that legislators are favorably inclined towards the enactment of any law for the prevention of blindness which can be demonstrated to be calculated to result in benefit to the general public. Laws enacted for the relief of the hygienic conditions, which have been shown to foster impairment of the vision, have been received with equal favor; they have undoubtedly been of great benefit to the rising generation and will be of still greater service to the generations to come.

Ophthalmia Neonatorum.—Laws have been passed in many States of the Union to regulate the care and treatment of patients suffering from ophthalmia of the newborn. In 1895 an act known as Senate No. 91 was introduced by the Hon. Robert Williams, of Paterson, N. J., entitled, "An Act for the Prevention of Blindness in the State of New Jersey." It became a law and is now known as Chapter 118, Laws 1895, State of New Jersey, and reads as follows:

1. "Be it enacted by the Senate and General Assembly of the State of New Jersey, that should one or both eyes of an infant become inflamed, swollen or reddened, or show any unnatural discharge at any time within two weeks after its birth, and no legally-qualified practitioner of medicine be in attendance upon the infant at the time, it shall be the duty of the midwife, nurse, attendant or relative having charge of such infant to report the fact in writing, within six hours, to the local board of health of the city, township, or other municipality in which the parents of the infant reside.

2. "And be it enacted, That the said local board of health shall direct the parents or person having charge of such infant suffering from such inflammation, swelling, redness or unnatural discharge of the eyes to immediately place it in charge of a legally-qualified practitioner of medicine, or in charge of the physician of the

city, township or other municipality if unable to pay for medical service.

3. "And be it enacted, That every local board of health in the State of New Jersey shall furnish a copy of this act to every legally-qualified practitioner of medicine, and to each person who is known to act as a midwife, or nurse, in the city, township or other municipality for which such board of health is appointed; and the secretary of state shall cause a sufficient number of copies of this act to be printed, and to supply the same to such officers for distribution.

4. "And be it enacted, That any failure to comply with the provisions of this act shall be punished by a fine not to exceed two hundred dollars, or imprisonment not to exceed six months, or both, upon conviction under prosecution proceedings to be brought by any local board of health.

5. "And be it enacted, That this act shall take effect and be in force on the first day of May; one thousand eight hundred and ninety-five."

In framing the law, which was drawn upon the same lines as those previously enacted by other States, an effort was made to overcome certain faults which had prevented the satisfactory operation of all of the similar laws. It seemingly provided for jurisdiction by local boards of health, made compulsory the immediate treatment of all cases by legally-qualified practitioners of medicine, provided for the distribution of copies of the law to every physician, nurse or midwife in the State, and apparently fixed a penalty and placed the prosecution proceedings in charge of the local boards of health. The law in the State of New Jersey, regardless of its apparent completeness, has been and is inoperative. Cases have not been reported to boards of health, for the reason that knowledge of the law's requirements did not reach the persons in charge of those affected. The health boards did not send copies to the physicians, nurses or midwives, as no provision was made for the expense of printing and postage. The only approach to a notification was through a circular published by the State Board of Health in its annual report, which naturally only reached a small number of persons interested. The inference is, therefore, that the laws enacted to prevent the disease ophthalmia neonatorum are inadequate, and supplementary clauses should be added placing the diseases upon the board of health's list of contagious and infectious diseases, making compulsory a report of all cases, whether under the care of a legally-qualified practitioner of medicine or not. Under such conditions the health board would be compelled to supervise the care of this disease in the same manner as the diseases at present upon the regular list are supervised. The officers of the board would either see that the provisions of the law were enforced, or, having the necessary organization and means to carry on a prosecution in any case of convictions under the law, which would certainly result in preventing its continued violation.

Purulent Ophthalmia, although it occurs comparatively infrequently, is in the cases infected very apt to result in the loss of one or both eyes. It is the result of the direct inoculation of the conjunctiva by a specific virus carried either by the fingers, or infection through the towels, wash basins, soiled rags or clothing. Only through the dissemination of the knowledge of the dangers of infection from the sources enumerated can boards of health do anything to prevent the spread of infection, unless the time should arrive for the enactment of laws compelling a general supervision of all

of the homes of the demi-monde, which at present exist as necessary evils. Without supervision they are hotbeds for the germination of the bacterial elements which are the prime factors in the production of the disease from which infection of the conjunctiva occurs.

Trachoma and other communicable eye diseases; for the purpose of decreasing the frequent occurrence of the spread of diseases of this class, in almshouses, orphan asylums, homes and other similar public institutions, it is desirable that the hygienic control and supervision of all of the buildings should be vested in the health board.

In 1881 Dr. C. R. Agnew, in his notes on contagious diseases of the eye in schools and asylums, suggested the practicability of the prevention of blindness in this class of cases by legal enactment in the following words:

"Diseases of the conjunctiva and the cornea are largely the cause of prevailing blindness, and yet they belong in a great degree to the class of preventable diseases. The fact that they do fall into this class gives to the sanitarian and to the legislator a special opportunity and advantage for inquiry, advice and legal enactment, to limit or prevent their prevalence."

With the advent of the specially appointed school inspector, or more properly medical supervisor, who should, although an independent officer, be in accord and work in harmony with the health board, each being of service to the other in carrying on in the public schools the laws for the prevention of blindness as a result of trachoma and all blenorrhoeal communicable eye diseases, which may be carried by direct inoculation of the ocular or palpebral conjunctiva by the germs of the disease, epidemic disease should be generally prevented if not eventually eradicated by the adoption of laws and ordinances by legislative bodies, and the boards of education, health and sanitation, which have officers fully equipped to enforce the proper observance and execution of the laws.

Where laws do not at present exist ordinances should be enacted prescribing regulations compelling in all public lavatories, whether located in hotels or other places, a strict observance of necessary sanitary precautions, scientific plumbing, special care regarding the linen, and entirely forbidding the use of that common carrier, the roller towel.

In all schools and reformatories, applicants for admission should be examined by a competent medical examiner before admission, and any applicant declined who has any form of communicable eye disease, unless especial quarters are provided for the isolation of such cases.

The buildings of all such institutions should be periodically inspected by experts in sanitary science and a detailed report made to the State or local health boards, setting forth the sanitary condition of the buildings, closets and lavatories. The capacity of the institution should be regulated by ordinance fixing the number of persons to be admitted, allowing an ample air space for each person, and providing for the entrance of fresh air and abundant sunlight. There is no source of danger promoting contagion more surely and rapidly than the massing together of humanity in the vitiated air of closely packed apartments with insufficient accommodations for proper ablution, and subtle poison arising from unsanitary sinks, lavatories and closets. The conditions referred to, by insidiously undermining the constitutions of the inmates, renders them not only more susceptible to the contagion of communicable eye diseases, but makes them fertile fields for the germination of the bacterial products of any form of contagion.

There should be apartments especially light and airy set apart for the isolation of any case of communicable eye disease which may originate within the building or may for any reason be admitted. The patients must be so domiciled that they will not become vehicles of contagion to the remaining occupants of the institution, and constant quarantine maintained until the danger of contagion has passed.

Contagious and Infectious Diseases.—The diseases under this head are mainly at present under the direct control of boards of health, and much good has been accomplished in lessening the number of the blind by the decrease in the number of cases of contagious disease, as a result of quarantine, isolation and general supervision. These results are especially noted in the corneal disease occurring in smallpox cases which so frequently resulted in loss of sight. The almost total suppression of this disease in consequence of compulsory vaccination laws and the passage of laws and ordinances for the supervision of this class of diseases has been of great service, and further good must be accomplished as a result of new laws and the increasing care and attention which boards of health are giving to the prevention of these diseases.

Accidents and Poisoning.—Blindness as a result of accidents in factories seems to be on the increase. Greater precaution in guarding dangerous machinery should be compelled by law, and also the posting of notices in every place where danger exists. Workmen of age and experience should only be permitted to perform hazardous work. Employers should encourage the wearing of neutral glasses for protection. Systematic inspection and supervision of all workshops and machinery by competent officers should be compulsory. The question of the legal responsibility of employers failing to meet the standard requirements of the laws for the protection of their employees should be definitely settled. To preserve the eyesight of employees and assure the highest grade of work, employers should encourage the use of glasses which are necessary for the correction of refractive errors.

Thorough instruction in the chemistry of poisonous substances used in the arts should be given employees and a knowledge of the best methods to prevent systematic infection should be necessary before they are permitted to commence work.

Refractive Errors.—The conditions which have been important factors in the production of errors of refraction in school children have been, during recent years, changed so materially and the public sentiment has, through education, been so thoroughly aroused to the necessity of proper hygienic surroundings, and improved school methods, that a material decrease in the number and extent of the refractive errors has been the result. Municipal boards and the educators have in many instances accepted and acted upon the suggestions of the medical profession and sanitarians, with the result that in the cities where the changes are fully carried out the stage of perfection in heating, ventilation, sanitation, furnishing, and the general condition of the new school building leave apparently nothing to be desired. It would seem that the student might perform the maximum amount of school work under these very desirable conditions without the risk of ocular or physical injury. The educator has, perhaps unfortunately, observing that the conditions were rendered so very satisfactory for the performance of school work, constantly advanced the educational standard by altering the grades, extending the school curriculum, and in-

creasing the work necessary to meet the requirements to such an extent that it would seem to require more than a reasonable mental effort and attainment to perform the work. It would seem that the time has arrived when a careful consideration of the question, "How much mental work should a growing child perform daily?" is of paramount importance.

The plan of school work must be so arranged that an ordinary individual possessing average intelligence should be able, by the employment of due diligence, to perform the required amount of study without ocular or physical injury. Teaching should be didactic in character, with the aid of blackboards, maps, etc., to encourage frequent rest for the ocular muscles by the employment of the eye in distant vision. School study periods should be arranged, and the amount of home work curtailed as much as a reasonable educational progress will permit. The fact that work at the near point is required at home, where the conditions are frequently quite as unsatisfactory as in any school, must not be lost sight of in arranging the course of study and allotting the time to be required for work outside of school hours.

Scientific advances will before long necessitate the assignment of scholars who have ocular or physical defects to a privileged class, where by a system of selective studies they may acquire a knowledge commensurate with their educational qualifications, and be given only the amount of school work which they have ocular and physical ability to perform. Pupils with defective vision, or those who are physically weak, should not be advanced to their own detriment and to the detriment of the physically strong, nor allowed to undertake the entire school curriculum as now laid down for all students alike, regardless of any consideration of their innate strength being sufficient to withstand the strain, or the possible result of a constant over-taxation of the physical and mental forces.

Unless measures are immediately adopted which will make the desirable changes in the increasing extent of the school curriculum, the educator will nullify every benefit which has been gained by all of the hygienic and sanitary measures adopted. Attention is not called to this fact with any intention of underrating the value of higher education, for it is firmly believed and freely admitted that the advance in science, art, literature and commerce which the United States of America has made in a short period of time is unprecedented in the previous history of any national progress. It has been due, to a great extent, to the exceptional educational facilities, which have resulted in a general enlightenment of the masses of the people. The educational standard has been advanced to a plane necessitating so high a grade of general attainment that it entails for the ordinary scholar, except under favorable conditions, the expenditure of an amount of physical and mental energy greatly in excess of the average resources of the youth of the present age. The advantages gained must not be lost; the scholar must not be forced to perform sufficient mental work to impair his ocular functions or injure his physical condition.

The methods which have been adopted as the result of the enactment of laws which have made compulsory hygienic precautions, have resulted in a diminution of the number of the blind. This has been demonstrated by the decrease in the number of the blind shown in the census returns compiled during the past forty or fifty years, in the United States and in other countries. The enactment of laws which are inoperative is of no public service. The tendency to ineffective laws of this class

is shown in the laws enacted which provide for supervisors. The enactment of any measures for the prevention of the spread of disease will not be effective unless they specifically provide for report to and supervision of all cases of either contagious or infectious diseases by the Board of Health, or some specially appointed competent supervisor or inspector. The danger of conflict and disagreement between the control boards of institutions and the health boards or inspectors might be easily overcome, if the duties of each are strictly confined to their respective departments. Each board could be of assistance to the other and their public service greatly enhanced in value. Supervision in the hygienic department by specially qualified officers is an absolute necessity, and if such officers are not in full charge, regardless of the board or body of directors who are in immediate control of the buildings in use and their inhabitants, laws which are enacted for the prevention of the spread of disease must either result in failure, and be absolutely inoperative, or at the best be spasmodic in their action and effect.

THE VALUE OF GLYCO-THYMOLINE (Kress) IN THE LOCAL TREATMENT OF DISEASED MUCOUS MEMBRANE.

BY GEORGE A. HEWITT, M.D., PHILADELPHIA, PA.

GLYCO-THYMOLINE (Kress) has been so well known for years, has been so widely and beneficially employed, and fulfills so many important indications, that it is superfluous at this date to enter into any description of its physical and chemical characteristics. There is one valuable feature of its action, however, which seems not to have been sufficiently emphasized. I refer to its powerful exosmotic action, by which it withdraws serous fluid from congested and inflamed mucous membrane, thus relieving engorgement and cedema. This influence, in addition to its emollient and antiseptic qualities, renders it a peculiarly acceptable and efficacious application to an inflamed mucosa. Glyco-Thymoline (Kress) for these reasons combats the material causes and removes the results of inflammation. Furthermore, the relief of the distended blood vessels stimulates the absorbents to perform their function in the absorption of exudates and infiltrations. The alkalinity of the fluid, moreover, facilitates the removal of accumulated morbid secretions and crusts. It is by virtue of this union of therapeutic properties that Glyco-Thymoline (Kress) has achieved so much success in the treatment of diseased mucous membranes. These structures are particularly exposed to inflammatory attacks due to atmospheric, mechanical, chemical and bacterial agencies.

My own experience with this preparation extends through a number of years, and relates principally to its service in those affections of the nose and throat which come under the observation and care of the general practitioner. Those cavities are extremely prone, as every one knows, to catarrhal attacks. Starting in one or other of these localities, the pathological process may be very rapidly propagated to the Eustachian tube and middle ear; long-continued hypertrophic rhinitis, aggravated by repeated exacerbations, is the point of departure of anterior and posterior hypertrophies. Some of the infectious diseases of childhood, notably measles and scarlatina, are typically characterized by the involvement of throat and nose in a general disease-process. As the lymphoid tissue of these parts is extremely susceptible to irritation, we are apt to witness, dependent

upon the same factors, attacks of adenoiditis, which may serve as the original step in the development of adenoid vegetations, with all their train of evil consequences. A nasal affection may also extend through the lachrymal canal and invade the organ of vision. The larynx may likewise become involved, and in some instances the disease may attack the deeper portions of the respiratory system. Numerous reflex troubles also spring from nasal maladies. It is, therefore, incumbent upon the practitioner to institute treatment as early as possible in every case, in order to avoid ulterior and disastrous consequences.

In all cases of recurrent and chronic catarrh of the nose and throat, unaccompanied by extreme pathological alterations, Glyco-Thymoline (Kress) is an admirable application, and in a large number of cases no other local measures are demanded. If hypertrophies or adenoids are present, operative procedures will be renquired for their radical cure.

In illustration of the class of cases in which Glyco-Thymoline (Kress) will be found of marked benefit the histories of a few cases may be briefly cited:

ACUTE RHINITIS.

Cases of acute rhinitis, or coryza, do not ordinarily come under the physician's care. If accompanied by decided chilly sensations, some fever, and general malaise, the patient will sometimes seek medical advice in the fear that he is about to suffer from a more severe disorder. If seen sufficiently early, action upon the skin by pediluvia, warm bath, warm drinks and Dover's powder, or an equivalent, will generally abort the attack. Most cases run a neglected course, and may finally be brought under professional observation because the nasal discharge shows no tendency to diminish. In the latter class the use of Glyco-Thymoline (Kress) diluted with four to six times its bulk of water, and passed through the nasal chambers by means of Birmingham's douche, two or three times daily, soon proves effective. This douche is a very simple and inexpensive glass apparatus, the management of which is easily learned by any one. Free flushing of the cavities in this manner is preferable to the use of a spray, as it cleanses the parts of inflammatory secretions, and is thus enabled to continue the action directly upon the seat of disease. Some cases of the kind are as follows:

CASE I.—A man, 32 years of age, had taken cold three weeks previously from exposure in rigorous weather. He had suffered ever since from coryza, which annoyed him particularly by its persistency. The use of Glyco-Thymoline (Kress) in the manner above indicated soon afforded him relief, and in the course of a week the nasal discharge was completely suppressed.

CASE II.—A woman, 29 years of age, had been troubled with coryza and sore throat for two weeks. Breathing was obstructed and there was considerable mucous discharge from the nose. The nasal cavities were irrigated with a solution of Glyco-Thymoline (Kress), and it was also used as a gargle. These local measures, together with moderate doses of quinine, were soon successful in effecting a cure.

CASE III.—A man, 25 years of age, had been troubled with coryza for a week, together with tickling in the throat, some pain in swallowing, and a cough. The half arches were injected, but the tonsils were not swollen nor was there any general pharyngitis. Several full doses of quinine were given and Glyco-Thymoline

(Kress) was used to flush the nose and also as a gargle. Speedy recovery ensued.

CHRONIC RHINITIS.

In persons of a weakly constitution, in those who are confined too closely to the house, and especially in those of a scrofulous diathesis, there is a strong tendency to catarrhal attacks. Such individuals suffer, during the colder portion of the year particularly, from a succession of attacks. In simple chronic rhinitis, chronic coryza or chronic catarrh, there is a free proliferation of the mucous membrane and turgescence of the erectile tissue. Patients of this class usually require tonics and alteratives, such as iron, quinine, strychnine, the hypophosphites, arsenic, mercuric bichloride, or cod-liver oil. Glyco-Thymoline (Kress) acts directly upon the seat of disease. A few illustrative cases are appended.

CASE IV.—A boy of 12 years had suffered from repeated attacks of malaria, and, being fond of books, hardly has as much out-door exercise as a growing child requires. His general health was fair, and, with the exception of the malarial paroxysms, he was rarely ill, but in the winter he scarcely recovered from one nasal catarrh before he was again attacked. He was annoyed by the constant necessity of using the handkerchief, and his respiration was often somewhat obstructed. He was placed upon a combination of iron, quinine and arsenic with the local use of Glyco-Thymoline (Kress) by means of the Birmingham douche. His strength gradually increased, the liability to take cold was decidedly lessened, and he was encouraged to spend more time playing in the open air. After a summer in the country he returned greatly invigorated and with a normal nose. During the following winter he had but little trouble.

CASE V.—A girl, 11 years of age, was similarly affected. She was well built, well grown, and usually quick in her studies. She was fond of girlish play also, but exhibited a marked predisposition to nasal catarrh. On account of delicacy of constitution she was ordered compound syrup of hypophosphites with cod-liver oil. Locally Glyco-Thymoline (Kress) was used in the manner already described. The nasal catarrh and the tonsillitis, to which she was also subject, became much less severe and frequent. For the past year she has been entirely free from trouble, is blooming like a rose, and heads her class at school.

HYPERTROPHIC RHINITIS.

If chronic nasal catarrh is neglected, it terminates in hypertrophic rhinitis. The substance of the mucous membrane, or corium, the superimposed epithelium and the submucous tissue become thickened and stiffened by an organized infiltration, which keeps the erectile tissue constantly dilated and full of blood. This hypertrophy, together with the presence of morbid secretions, causes notable obstruction to respiration; the patient breathes more or less habitually through the mouth; the lips, tongue and buccal cavity are dry; the Eustachian tube is often involved; there may be dullness of hearing and attacks of pharyngitis, tonsillitis or laryngitis are apt to occur. If such cases are allowed to progress unchecked, they usually give rise to anterior and posterior hypertrophies, which will require surgical intervention.

Cases of hypertrophic rhinitis without thickening of the septum or turbinates are as follows:—

CASE VI.—A man, 34 years of age, had suffered for years, especially in cold or damp weather, from difficulty of breathing, accompanied by a thin discharge from the

nose. At night he was obliged to sleep with his mouth open. He was prone to attacks of follicular tonsillitis. This man was appreciably benefited by a course of arsenic internally and the persistent local use of Glyco-Thymoline (Kress). In the course of a few weeks the situation was entirely changed. A sense of obstruction was then seldom present. The discharge had entirely disappeared. He is now almost entirely free from his old symptoms. Whenever there is any threatened recurrence he has immediate recourse to his bottle of Glyco-Thymoline (Kress).

CASE VII.—A woman, age 22 years, had suffered for years from an aggravated case of hypertrophic rhinitis. Obstruction was marked, discharge was constant. At night she constantly breathed through her mouth. She was subject to sore throats and attacks of bronchitis. This patient was directed to take hypophosphites, malt and cod-liver oil, as she was of a distinctively strumous diathesis. Withal, however, she was possessed of considerable muscular strength, and aided by the local action of Glyco-Thymoline (Kress), made a very satisfactory recovery.

ACUTE PHARYNGITIS.

Glyco-Thymoline (Kress) is a serviceable remedy in the treatment of the above disorder. It is diluted with several times its volume of water and used as a gargle. Patients often testify to its value in alleviating the pain of the inflamed throat. Among many cases in which it was beneficially employed were the following:

CASE VIII.—A young man, 19 years of age, had taken cold two days previously, had a chill, pain in the head and limbs, cough and slight expectoration. There were no rales in the chest. The throat was sore, he had pain in swallowing, and the pharynx was the seat of a diffuse redness. General treatment appropriate to his condition was given. The man himself attributed much importance to gargling with Glyco-Thymoline (Kress), which, as he expressed it, "went right to the spot."

CASE IX.—A woman, 22 years of age, had suffered two days with sore throat. There was pain in swallowing; she had headache, backache, and pain in the limbs. The pharynx was red and swollen. The chest was clear. The same local treatment was equally beneficial as in the preceding case.

CASE X.—A woman, 55 years of age, after an imprudent exposure, was seized with sore throat, pain in the neck, and difficulty in breathing. She was alternately chilly and feverish. The soft palate and half-arches were vividly red. There was no enlargement of either tonsil. The cervical glands and the left sterno-mastoid muscle were tender to the touch. Internal remedies were administered, but the patient ascribed no little share in the improvement which took place to the use of Glyco-Thymoline (Kress) in the form of a gargle.

CASE XI.—A woman, 24 years of age, in consequence of a chill suffered from aching pains and sore throat. The pharyngeal mucous membrane was intensely injected, but the tonsils were unaffected. In this case, likewise, the gargle was regarded as contributing materially to the cure.

CHRONIC PHARYNGITIS.

If, as often occurs, chronic pharyngitis is the result of an old affection of the mucous membrane of the nose, the latter organ must receive the same treatment already outlined as proper for chronic rhinitis. The following cases may be referred to as examples:

CASE XII.—A young man, aged 24 years, had been

annoyed for several years by chronic pharyngitis due to smoking. From time to time during the day, and especially in the morning just after rising, there was hawking, which brought up without difficulty a mass of thick mucus. This was the chief feature of the case, and was notably aggravated by exposure to cold, damp weather. Abstinence from tobacco was advised, but, although he reduced his former allowance, he seemed unable to abandon the habit. Gargling with the fluid of which we write afforded him perceptible relief, reducing the inflammation and irritability of the mucous membrane and diminishing secretion. In connection with the other methods adopted it was finally successful in effecting a cure.

CASE XIII.—The same efficacy was displayed in the case of a young man, aged 27 years, who had for a long time been subject to chronic pharyngitis, dependent upon nose trouble and accompanied at intervals by occlusion of the Eustachian tube. In this case the fluid was used both in the nose and throat.

FOLLICULAR TONSILLITIS.

In this disease so common among young children, Glyco-Thymoline (Kress) may be employed with advantage. Its exosmotic properties are extremely serviceable in reducing the size of the swollen glands. The enlargement is apt to subside slowly even after the active stage of the inflammation has passed. Children who are old enough to gargle may employ the remedy in that manner. In those too young it may be applied upon absorbent cotton. Representative cases are:

CASE XIV.—A boy, 11 years of age had suffered for a day from headache and fever with pain in swallowing. Both tonsils were red and swollen; especially the right, which was studded with patches of exudation from the crypts.

CASE XV.—A girl, aged 15 years, had had a chill twenty-four hours previously, her throat felt sore and it pained her to swallow. The glands of the neck were swollen and there was fever. Both tonsils were considerably enlarged. The crypts were exuding their characteristic discharge.

CASE XVI.—A young woman, 19 years of age, was attacked by vertigo and lost consciousness. Twelve hours later both tonsils were found greatly swollen, almost meeting in the middle line. The cervical glands were moderately enlarged. The surface of the tonsils was dotted by exudation.

The three immediately preceding cases were all treated in the same way, as far as local measures were concerned. This has been described above and need not here be repeated.

HEMORRHOIDS.

The power of this remedy to relieve turgescence is admirably shown in hemorrhoids, especially of the internal variety. This affection very frequently occasions severe distress. Pain, itching and hemorrhage combine to render the patient miserable. In some instances they become seriously debilitated. In the earlier periods of the malady a practical cure may be obtained by the use of Glyco-Thymoline (Kress) as an injection and compress. The preparation is diluted with an equal quantity of water and of the mixture from two drachms to half an ounce are thrown into the rectum by means of a small syringe. This operation is performed two or three times a day. In the intervals it is a good plan to insert a wad of absorbent cotton, saturated with the fluid, into the rectum in order to secure a more constant

action. The remedy has also been given with success by the mouth in such cases, the dose being a teaspoonful, well diluted. Cases in illustration of this mode of treatment are:

CASE XVII.—A man, 50 years of age, of robust build, who had always enjoyed good health and muscular vigor, was severely afflicted. The tumors were not large, but they gave rise to intense, lancinating pain in the rectum, shooting likewise into the urethra. There were frequent hemorrhages. For a month or more the man had been unable to sleep much and had lost considerable flesh. The use of the remedy as indicated above was followed by a very happy result. The symptoms were rapidly ameliorated and by the end of a month entirely disappeared.

CASE XVIII.—In the similar, though less severe case of a man, 52 years of age, there was pain and occasional bleeding, but the most prominent symptom was distressing pruritus. All the manifestations were fully relieved by the use of Glyco-Thymoline (Kress).

VESICAL, UTERINE AND VAGINAL DISEASES.

In cystitis the same preparation produces excellent results, removing from the bladder the accumulation of mucus which, by its continued presence, aggravates the local condition. After the organ has been thus cleansed, the remedy is strikingly efficacious in allaying the inflammation. For irrigation of the bladder one part of Glyco-Thymoline (Kress) is added to ten or twelve of water.

In endometritis the cavity of the womb is thoroughly cleansed or curetted, according to circumstances and the indications of the case, after which it is packed with tampons impregnated with a one to ten solution of Glyco-Thymoline (Kress). In moderate cases of leucorrhœa this fluid alone will suppress the discharge.

In gonorrhœal vaginitis this remedy has proved effectual. By the courtesy of a colleague I am permitted to quote the two following cases which came under his observation:

VAGINITIS.—The first was that of a young unmarried woman who suffered from acute vaginitis. Examination by the microscope showed the presence of the gonococcus. The disease was well advanced when the patient was first seen. The discharge was profuse, acrid and excoriating. She had been treated by different methods without improvement. Douches were ordered of a solution of Glyco-Thymoline (Kress), ten per cent., and tampons saturated with the same preparation full strength; and under this treatment the patient completely recovered in less than ten days. The patient has remained well for four months and there has been no recurrence of the former trouble.

FUNGUS ENDOMETRITIS.—The second case was that of a married woman, 36 years of age, in whom there existed extreme granular degeneration of the endometrium. The cavity was curetted and packed with gauze saturated in Glyco-Thymoline (Kress), full strength. Recovery was rapid and complete. There was no mucous discharge.

—The nurses who served in the Spanish war have formed an association under the name of the Nurses' Spanish War Association.

—At the International Medical Congress in Paris, a Mexican surgeon reported a case of what he said was the first successful one of tying the innominate artery for a wound in the common carotid.

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Every mind was made for growth, for knowledge; and its nature is sinned against when it is doomed to ignorance. Let the individual feel that through his immortality he may concentrate in his own being a greater good than that of nations. The progress of society consists in nothing more than in bringing out the individual, in giving him a consciousness of his own being, and in quickening him to strengthen and elevate his own mind.—CHANNING.

INSANITY.

THE opinion of many thoughtful observers, Professor Goldwin Smith among others, that insanity, especially suicidal insanity, is on the increase in the more highly civilized nations, does not seem to be borne out by the facts drawn from the Bureau of Vital Statistics. Dr. Nagle, the head of that bureau in this city, shows from the records that since the establishment of that department, that notwithstanding there have been fluctuations in cases of suicide evidently traceable to insanity, the ratio is no greater to-day than fifty years ago. It is difficult to determine the ratio of other forms of insanity from the fact that since Harvey in England and Dorothea Dix in this country made their searching and startling investigation of prisons and insane asylums, it has been found that insanity in some of its forms existed to a larger extent and had more to do with crime, especially among the young, than was generally supposed. The work of these two great philanthropists led to the establishment of an asylum for the criminal insane in connection with the State prison at Auburn. As a more careful and accurate diagnosis of insanity in connection with crime was made, the necessity for increased accommodations became so apparent that a new institution was erected at Matteawan, which now numbers 750 inmates, and another is now nearly completed at Dannemora for the more violent cases, less amenable to treatment. The large number of boys sent to the Matteawan Hospital from the Reformatory at Elmira is a conclusive proof that some of the varied

forms of insanity among the young have been overlooked and the disease increased by confinement in prison and reformatories, when they should be placed under proper medical treatment and the necessary discipline of a well regulated hospital. Judges and juries are becoming more alive to the question of sanity, in the young especially, who are brought before them charged with crime, and are discriminating between the prison and the hospital. The records of the Matteawan hospital show that many of these cases are amenable to treatment and go out from the institution to become good citizens instead of becoming confirmed criminals being committed again and again to prison.

The great causes of insanity may be classed under three heads—heredity, environment, and the result of disease affecting the brain directly or from reflex action.

So called hereditary insanity, like every form of hereditary trouble, can generally be prevented by the care of the mother during the embryonic development of the child, and its future physical and mental training, unless, as is sometimes the case, the vital force at birth is not sufficiently strong to withstand surrounding influences and the power of assimilating the mother's milk or food, however delicately prepared, is wanting. The same mental and physical training for all children, no matter what their parentage or what may be the hereditary tendency to any disease, is a wrong no less to the community than to the individual. The result to the individual may be an illbalanced brain and the growth and expansion of peculiar traits of character, arising from indigestion, lack of assimilation of the proper nutrition and the direction of the mind in its studies and environments in the channel best suited for healthy development. The result to the community is hospitals and prisons filled with victims of crimes and of disease and an appalling death rate in childhood and middle age. Of course human judgment is fallible and often errs from lack of intelligence when it aims to do right, and the mind is forced into channels and the body to perform labor for which it is entirely unsuited and has no taste. In the strong and well developed, full of vitality and with a brain not over sensitive, no special harm may be produced. The will power, the strong vital force, and the practical common sense may be sufficient when it reaches the period of life when it is permitted to act for itself to act in the direction best suited to its own intellect. But to the delicate nervous organization whose mental and physical qualities need harmonizing and strengthening in that line best calculated to remove all hereditary taint the time may come too late and the seeds which might have been destroyed have developed with such strength that they have warped the intellect and sapped the very fountain of life.

If parents, educators and physicians would study more carefully the mental and physical condition of children with an eye specially directed to hereditary predisposition in mind and body the ratio of deaths

among the young would decrease and the prisons and insane hospitals would be less crowded.

We have instanced environment as one of the causes of insanity. It has been noted in our large insane hospitals that the majority of female patients came from the farming districts. Life on the farm is very apt to be an everyday round of toil, with but little society, with but little to feed the mind, but work from morning to night, then sinking into a heavy slumber to start again on the treadmill in the morning. Said an old farmer as he brought his insane wife to the hospital: "I never thought Sally would get crazy. She was such a domestic woman, never went out, but always at work. Why we had ten cows and three hired men and four children, and Sally did all the work, and now she is crazy," and as the old man looked at the sad, despairing face of his wife, mentally starved, lighted by not one gleam of hope, the tears rolled down his furrowed cheeks, and he murmured, with a heart-breaking sob, "Poor Sally, poor Sally." Yes, poor starved Sally, the insane hospitals are full of them. The next most frequent cause of insanity is the direct results upon the brain and nerve tissues of acute disease and the reflex action from local trouble. One of the most frequent causes of insanity among women, is some disturbance of the generative organs, and among all classes, kidney and hepatic trouble and local condition of the brain. We very heartily concur with Ex-Surgeon General Terry, in his article in this issue of the *TIMES*, that a skilled surgeon should be connected as a part of the official staff with every insane hospital. The knife even in insanity is often a most potent and efficient remedy.

The term "paranoia" covers a wide range of mental conditions, some of them variably classified under special names, but all more or less similar and probably arising from the same diseased condition. We describe it as intellectual (or reasoning) monomania; a primary or chronic form of insanity arising from various causes, including the results of acute disease, and marked by hallucinations and delusions, which are systematized, i. e., exhibit a logical connection and sequence, so that a patient from his perverted ideas, in which he firmly believes, draws logical and coherent inferences. This is one of the most difficult forms of insanity with which we have to deal, as upon all subjects except the hallucinations and delusions the patient may reason with clearness and logical accuracy and appear perfectly sane. Brought before a jury the intelligence displayed in logical reasoning and correct answers to questions may convey the impression of perfect sanity, and yet within twenty-four hours, under the influence of a fixed delusion or an hallucination, may be guilty of any crime, even murder. In the history of the Reformation a case is given where a man said to his brother, "Jack, put your head on that log and close your eyes." With one blow of the axe the head was severed. When

asked why he killed his brother, his reply was, "In obedience to the voice of God, coming to me direct from the sky." A patient in the Middletown insane hospital appeared so perfectly sane as to deceive an eminent lawyer, who said he should take steps to liberate him; but when requested to ask the patient a question about his wife, and being told she was an adulteress and had cohabited with the Archangel Gabriel, he changed his mind. The records of the case showed that, acting under this delusion, he had attempted to kill his wife. This paranoiac condition may last for years, but sooner or later the whole brain becomes involved and the patient more or less demented.

PHOTOGRAPHING THROUGH THE HUMAN BODY.

THE influence of the direct sun's rays in vegetable growth and the healthfulness of the individual and the house in which he lives is so apparent as to require no argument. The sun bath has long been looked upon as a powerful health restorative and a stimulant and equalizer of the vital forces and nearly all our winter resorts are now provided with piazzas enclosed with glass where the invalid can exercise or sit at ease enjoying the direct and vitalizing influence of the sun. We know that the sun's rays falling upon the surface of the body penetrate to a certain extent, but we did not know until recently proved by Dr. J. W. Kinne, with the aid of a photographer at Fort Dodge, Iowa, that the actinic or chemic rays of the sun pass entirely through the body. By actinic rays is meant the decomposing rays of the sunbeam. M. Bocquerel divided the active forces of the sunbeam into light, heat and actinism, attributing to the actinic rays the penetrating power continuing the work of the others. These condensed rays, of so much importance in photographic work, have been concentrated and made to pass through the living body with sufficient intensity as to reproduce a picture upon an ordinary photographic plate on the opposite side of the body. *The Scientific American* describes and illustrates the experiment made under the direction of Dr. J. W. Kinne at Fort Dodge, Iowa.

The person upon whom the experiments were to be made was taken into the photographer's dark room and the plates were applied with great care, that all rays of light save those that traversed the thorax might be excluded.

The direct rays of the sun falling upon the reflector through the skylight are focused upon the chest of the person upon whose back has been placed the sensitized plate on which the picture is to be taken. A transparency on glass of a valley in the Klondike was used as the original from which the picture was to be made. This was fastened to the sensitized plate and the two were placed on the back between the scapulae of a man weighing 150 pounds, the transparency being placed next to the body with the new

plate immediately behind it. Over these were placed black paper, black cotton wadding, several large black cloths, and over this his coat was drawn and all were securely fastened by means of long black bandages. He was then taken to the light room, and the reflector was turned upon the chest for fifteen minutes. After exposure he was again taken to the dark room and the plates were removed, and the picture was developed on the photographic plate.

In producing this picture all sources of error were carefully excluded, and the operation was repeated many times on various persons, and always with like results.

To further test the reliability of the procedure and to insure that the picture was not produced by contact of the transparency with the plate, aided by the body heat or by some undetermined influence other than the light transmitted through the body, plates were arranged in the same manner and for like periods of time, without attempting to pass the light through the body, and no picture developed on the plate.

The reflector used in making these experiments is a compound circular mirror, thirty inches in diameter, and is overlaid with blue glass.

It is so constructed that all the light which falls upon it is focused upon a spot six inches in diameter at a distance of eight feet in front of it. Thus a very powerful blue light is brought to bear upon the parts.

The heat rays of the solar spectrum are largely contained in the red band, while the actinic or chemic rays are much more abundant in the violet and ultraviolet bands; thus by utilizing the blue light we get a much greater percentage of actinic light in proportion to the heat rays than if ordinary white light be used.

How much this discovery may be utilized in the treatment of disease, other than affecting the skin, remains to be seen, but from the action of the actinic rays in decomposing chemical agents or compounds it would seem that a wide field of usefulness is open for their action upon the diseased human organism brought in contact, as they will be upon the irritating causes of the trouble.

SUBARACHNOID COCAIN ANESTHESIA.

PROF. TUFFIER reported at the recent International Medical Congress at Paris his experience, with demonstrations, of the anesthetic effects of cocain when applied as suggested by Dr. J. Leonard Corning, of New York, in close proximity to the spinal cord. The results of this procedure are wonderful, and mark a real advance in the relief of pain, as well as in producing anesthesia for surgical purposes, in fact it will supplant the use of chloroform and ether to some extent at least. Dr. J. B. Murphy, of Chicago, reports Prof. Tuffier as saying:

After numerous experiments since November 9, 1899, I have made use of surgical anesthesia induced by the injection of solutions of cocain in the lumbar

subarachnoid space. In a previous communication I mentioned the works of Franck, Bier, Sicard and Sedlovitch, and I also published the results of my experiments. In these communications I also showed the facility and innocuousness of this method of anesthesia. The same was confirmed in a thesis by my interne, Mon. Cadol. I herewith give the precise technique which I have adopted. My operations have been on the lower extremities, perineum, rectum, abdomen, external and internal female genitalia and male genitalia. In all of the sixty-three cases I obtained absolute analgesia and the cure of my patients without early or late complications. The field has now increased and includes intestinal, gall-bladder and kidney operations, nephropexies and nephrectomies. (He has not performed any operations above the diaphragm.) I believe this method to be practical and I will insure success to whoever follows my method of procedure.

I use for these injections Pravaz' syringe, admitting of sterilization. (Hypodermic with asbestos piston.) The needle must be sufficiently long to penetrate easily the space between the skin and the subarachnoid space. This interval varies in length, according to the muscular development and obesity of the patient. The needle must be of platinum. It must be easily sterilized, and be 9 cm. long. External diameter must be 1.1 mm.; the internal diameter .8 mm. It must be solid, so as not to bend when it comes in contact with the vertebral column. Its end must have a short bevel. I employ a 2 per cent. solution of cocain. This solution must be sterile and recent; old solutions must be discarded. This is important. The fluid injected must be carefully sterilized. I prepare my solution as follows: The solution is exposed to a temperature of 80 C. in a water-bath for fifteen minutes, then it is kept in a temperature of 38 C. for three hours; it is again brought to a temperature of 80 C., then allowed to cool to 38 C. This operation is repeated five or six times in succession. It assures a perfect sterilization; the anesthetic properties of the cocain are not altered. The operative technique is as follows: The patient is in the sitting posture, both arms carried forward. The field of injection is thoroughly aseptized. Locate the iliac crests. An imaginary line connecting these two crests passes through the fourth lumbar vertebra. By injecting beneath that line you penetrate the medulla canal. As soon as you have located with the left index finger this spinous process, tell the patient to bend forward so as to make a big bag. This bending forward causes a separation of 1.5 cm. between the vertebra on which you have your index finger and the subjacent vertebrae. Then it is always wise to tell the patient, "I am going to stick you with a needle; you will feel some pain, but do not move." Make the injection with the right hand. I insert the needle to the right of the vertebral column about 1 cm. from the line of the spinous process. The needle goes through the skin, through

the subcutaneous cellular tissue, through the lumbar aponeurosis, through the muscles of the sacrolumbar region, and penetrates into the lamellar space, and at last penetrates into the spinal canal. As soon as the needle is in the subarachnoid space it meets no resistance, and from it escapes a clear, yellow fluid. This fluid is the cerebrospinal fluid, and escapes drop by drop. The surgeon must never inject a solution of cocain before he has seen the cerebrospinal fluid escape through the needle. After the surgeon has seen this fluid escape through the needle he attaches to the needle a syringe containing 1 c.c. of a 2 per cent. solution of cocain. The injection is made slowly; it should be completed in one minute. The dose injected should not exceed 15 milligrams of cocain. I always employ a 2 per cent. solution. The injection terminated, I rapidly remove the needle and close the needle-puncture with sterilized collodion. Note the precise minute at which the injection is terminated, and then wait. The patient can be questioned as to the subjective sensation which he experiences. After a certain lapse of time, which in our observations varied according to the subjects from about four to eight or ten minutes, the patient would complain of a tingling sensation and numbness of the feet. This numbness extends to the legs. You can now begin to operate. Gradually a sensation to pain and heat disappears. Contact sensation persists. Toward the last the motor system may be affected. From four to ten minutes after the injection analgesia is usually complete. Most often it extends to the thorax; occasionally to the axilla. It is not an approximate analgesia; it is complete; it is absolute, so much so that in a thigh amputation we asked the patient to elevate his stump so that we could better secure the vessels. In the course of the operation the patients, when questioned, would say that they felt only a sensation of contact. One of my patients could hear me saw his femur, and told my assistant that he could not tell whether I was sawing his femur or sawing the table. While doing a vaginal hysterectomy one of my patients felt that something was giving away, when the uterus was being removed, but she experienced no pain. In the course of a lumbar nephrectomy the patient, at the close of the operation, asked us if we were not going to soon begin the operation. The duration of analgesia is from one to one and a half hours. It has always allowed me sufficient time to complete the most laborious intervention.

The position which the patient is made to assume during the course of the operation does not at all modify the analgesia. I have thus always been able to employ that posture best suited to the operative procedure. Like under general anesthesia, I have operated in the inclined posture and in the left lateral posture.

The following incident may happen in the course of the puncture: In subjects whose spinal column is deviated, as in scoliosis, the line of the spinous pro-

cess can only be found with difficulty, and owing to the fact that the vertebral laminae have lost their normal relations, the puncture may be difficult. This obstacle, however, can be overcome by patience on the part of the operator. If the needle strikes against a vertebral lamina, change the direction of its point either upward or downward, but do not pull it back and forth. This pulling back and forth along the blunt needle may succeed in breaking it. The better thing to do is to remove the needle. Make another puncture higher up or lower down. The solution must be injected in the subarachnoid space. There is only one sign which permits us to affirm that the needle is in the cavity. I mentioned that sign before; it is the escape of cephalorachidian fluid. If blood escapes through the needle it may be fluid blood or it may be blood with an admixture of cerebrospinal fluid. As to the nature of the blood, you can not decide by simple inspection. We repeat the puncture, and we will not inject until we have seen two or three drops of pure cephalorachidian fluid escape.

Can this method of anesthesia be productive of any accidents? I do not know, but basing my opinion upon my personal observation, I can affirm that I have never seen a serious accident. Usually the patients complain of epigastric weight, the feeling of epigastric coldness; they are anxious; they are nauseated; emesis is frequent. These accidents may occur during the operation, a few minutes after the puncture, but they usually occur in the few hours that follow the puncture. These accidents are very frequent. I have noticed emesis fifty times in sixty-three operations; the vomit is mucous or bilious; it is not abundant; it yields readily to the ingestion of ice. Headache occurs more frequently than emesis. In two-thirds of the cases it is light headache, a simple heaviness. It disappears in a day following the operation. It can, however, be a very severe headache, provoking insomnia, and disappearing only at the end of forty-eight hours. I have noticed profuse sweats, some dilatation of the pupils, some shaking of the limbs, some rapidity of the pulse; all these accidents have disappeared twenty-four hours after the operation. In fifteen cases I noticed an evening elevation of temperature on the day of the operation. This elevation occurred in the absence of any operative complication. On the next day the temperature was normal. In forty patients I noticed a chill after from ten to fifteen minutes.

Among my patients there were thirty-nine males and twenty-four females. They varied in age from 12 to 69 years. Sex and age seem to have no influence on this method of anesthesia. I would consider children and hysterical individuals as being poor subjects for this method of anesthesia. I consider it well to put a simple compress over the patient's eyes. Some of my patients objected to being blindfolded.

In closing this I may say that if from one cause or

another analgesia was not obtained, this injection of cocaine in no wise contraindicates the immediate administration of a general anesthetic, ether, for instance. In my first experiments, before I had mastered the technique, it has often happened that I had to etherize the patients after the injection of the cocaine. It has seemed to me that it facilitated and made less disagreeable ether anesthesia.

This form of anesthesia is now being used quite extensively in this city and with marked success in maternity cases.

There is a great difference of opinion as to this method of producing anesthesia. The needles used are said to be four inches long, and some think they are dangerous to use. Then the risk of injury to the spinal cord from careless adjustment of the needle, the mental effort to the patient, who is conscious of all that is going on, and the dangers from susceptibility to the effect of the drug which some possess. All admit that there are cases to which it is suited, and that it will be a great help in those cases where other methods cannot be used.

A MUCH-NEEDED CHARITY.

NEW YORK CITY is abundantly supplied with hospitals and dispensaries, almost every specialty being represented in separate institutions, aside from large hospitals with departments for medicine, surgery and obstetrics. What we most need is a convalescent hospital to which patients can go for a week or two after leaving the sick wards of the special or general hospital, where neither medical nor surgical treatment is required, but simply the surroundings, and rest necessary to build up the weakened system. Mr. Adrian Islin, one of the most wealthy and public spirited citizens, has projected and is carrying to completion, at his own expense, a much needed charity of this kind which has heretofore been overlooked. The institution will receive about one hundred and fifty inmates, and after the wards have been comfortably filled no other patients will be received until vacancies occur. Mr. Islin has been fortunate in securing the old Hartley mansion near Yonkers, which will be enlarged to meet the wants of the institution. The grounds are extensive and their beauty is greatly enhanced by the grand old trees which surround the mansion.

PREVENTION OF MALARIA.

WE learn from the *Journal of Tropical Medicine* for September that the experiment of inoculating malaria in England by mosquitoes fed from a malarial patient in Rome has succeeded. We learn from the same source that the men who are testing this matter by living in the most malarious part of the Roman campagna, drinking the water and exposed to the night air, taking no quinine and protected only from the bites of the malarial mosquitoes

have thus far, September 22, entirely escaped a malarial poisoning. These experiments add much to our knowledge of the way in which malarial poison is communicated and may lead to a still greater prevention of the disease by ascertaining its real nature. The mosquito, as it is being proved, gathers and concentrates the poison from its source and transmits it to the living organism by its sting. The important discovery has also been made that the filaria of elephantiasis, like the malarial organism, has been found in the proboscis of the mosquito.

A recent report of a commission of surgeons of the United States Army, prepared by Dr. Walter Reed, is of interest in this connection. The conclusion reached by this commission is that the mosquito serves as the intermediate host for the parasite of yellow fever and it is highly probable that the disease is propagated through the bite of this insect.

How to combat the ravages of scores of insects injurious to man or the plants he requires for ornament or food is the constant study of the bugologist or entomologist. And his attention is directed searchingly to the life habits of the whole insect creation, from the most minute to the most conspicuous, from the ugliest bug to the most beautiful moth or butterfly.

In some he recognizes friends, in others enemies which may in a single season destroy plant life worth millions of dollars.

Take, for instance, the chinch bug, a small bug, only three twenty-fifths of an inch in length, yet he made a great stir in the world some years since. The amount of injury done by this insect in Illinois alone in the year 1864, was estimated at \$73,000,000. But now we seldom hear of it.

The chinch bug went out of business after the bugologists got their microscopes on him and learned that he was infested by a small parasite which was not only harmless, but was readily cultivated in such numbers as to destroy the host, as an infected animal or plant is called.

Many instances could be given, but the combating of one insect form by another is always the more interesting method of extermination, and usually the most economical and effective.

The United States Government has been experimenting with the savage looking but harmless dragon fly. Experimenters saw one fly eat up 800 mosquitoes in an hour, and it is now proposed to breed the "darning needle" on a large scale to see if they cannot be made sufficiently numerous to kill the mosquitoes that infest some parts of the country.

Now that the mosquito has been identified as the gatherer and transmitter, to a certain extent, of malarial poison and the entomologist has pointed out the way to get rid of the mosquito, and if Dr. Koch's claim since his return from Africa to have formulated a sure specific for malaria in all its forms is correct, may we not reasonably expect that not only may the

Roman Campagna be restored to more than its former fertility, but large malarial districts rendered comparatively safe while the work of change and purification is in progress?

MEXICAN PRIZE FOR A SPECIFIC FOR YELLOW FEVER.

SEVERAL years ago the Mexican Government offered a prize of \$100,000 for the discovery of a specific for yellow fever. Several specialists have made at different times unsuccessful experiments at yellow fever ports. During the past summer experiments have been made at Vera Cruz by Dr. Bellinzaghi, an Italian bacteriologist, a pupil of Pasteur, under the auspices of the Government Board of Health. The commission appointed by the Board to witness the experiments have just reported favorably and the prize of \$100,000 will be shortly given to Dr. Bellinzaghi.

The serum was tried on patients in the military and San Sebastian hospitals, and in eighty-five per cent. of the cases it was successful. The usual mortality in yellow fever cases is fifty to eighty per cent.

All the cases which Dr. Bellinzaghi failed to save were those in very advanced stages of the disease. In all the cases in which injections of the serum was made in the first stage of the disease the patient was convalescent in from one to four days, and the recovery was complete.

In the cases taken in the second stage of the disease, or, as the doctors express it, after the second injection, when the system is permeated with the toxin, the progress of the disease was stopped in from four to eight days and the patients recovered.

The third stage of the disease is when the action of the kidneys is stopped. When the disease has reached this stage death has hitherto been regarded as certain. Dr. Bellinzaghi saved several cases which had reached this stage.

In explaining the theory of his discovery, Dr. Bellinzaghi says:

"The sero-therapeutic treatment of disease originated in the theory of immunity from its own property from bacteria. Biological law teaches that each microbe produces in its cultivation substances capable of opposing its development or neutralizing its action. Roux, in the Budapest congress thus explained the formation of anti-toxins:—'The anti-toxin (anti-poison bacillus) is derived from the toxin (poison bacillus), by a transformation in the organism. This is proved by the similarity of the toxin and anti-toxin.' Therefore, the quantity of anti-toxin in the blood has to be in proportion to the introduced toxin.

"The toxin works as an excitant upon the cell which secretes the anti-toxin. That anti-toxin is a cellular product was proved by Klemperer, who found that the yolk of an egg immunizes its anti-toxin, whereas the white does not. The theory of the yellow

fever serum is that of immunization in the cell by anti-toxin and the excitant property of the phagocytes, two factors which enter simultaneously into play for the defence of the organism.

"The black vomit is a predominant symptom of the disease, due to the emetic properties secreted by the specific bacillus. The first vomits in the sickness are alimentary, afterward mucous and last bilious. The gastrorrhagia, or black vomit, is due to the grave symptoms produced by the toxin upon the gastric mucosa, which causes an extravasation of the blood in the gastric organism.

"The action of the gastric juice upon the blood which has penetrated into the stomach brings on the gastrorrhagia. Although yellow fever, from the point of view of its symptomatology, is a protoform disease, nevertheless there is always vomit. Enterorrhagia (emissions of blood) and gastrorrhagia are sometimes absent, but vomiting never.

"The first injection of the serum not only stopped the vomit but steadied the heart's action, diminishing the pulse and augmenting arterial tension.

"Death from yellow fever is produced from three causes:—First, by the primary infection, produced by the toxin secreted by the specific bacillus. Second, by the secondary infection before the specific bacillus has finished its cyclic evolution caused by the deep lesions produced by the toxins in the liver. The liver is considered one of the principal means of defence against the different microbial growths. When lesions appear in it the organism is invaded by numerous microbes, which take the life of the patient by septicemia. Third, death also can be produced by poisoned urine.

"In fatal cases of yellow fever the predominant symptom is insufficient action of the kidneys and poisoned urine.

"In the epidemic in which I made my experiments with the anti-yellow fever serum, according to the declaration of the commission nominated by the Board of Health of Mexico, this was the predominant symptom. The action of the serum in the most aggravated cases was to restore normal action of the kidneys with from one to three injections.

"The action of the serum upon the headache, the spinal pains and the pains of the lower limbs is rapid. They invariably disappeared within a few hours after the first injection.

"The action of the serum upon the temperature of the patient is parallel to its action upon the pulse.

"The injection of the serum early in the course of the disease is imperative. In the cases where the injection was made during the first period of the sickness—that is, before there were any appreciable lesions in the hepatic apparatus—the progress of the disease was stopped in from one to four days. In cases where there were serious lesions it required from four to eight days to stop the disease, and the danger of mortality in such cases is much greater."

OBITUARY.

DR. JACOB M. DA COSTA, of Philadelphia, whose work on medical diagnosis is highly valued by the profession, died at his country house, September 11, of cardiac disease at the age of sixty-seven years. Dr. Da Costa was a voluminous writer, the titles of his published works numbering fifty-four.

DR. LEWIS A. SAYRE whose contributions to orthopedic surgery have given him a world-wide reputation, died at his residence in this city, September 21, at the age of eighty years. Dr. Sayre was one of the founders of the Bellevue Hospital Medical College, also of the New York Academy of Medicine, the New York Pathological Society and the American Medical Association. Dr. Sayre held the position of health officer of this city during the term of office of three successive mayors, doing much for the improved sanitary condition of the city.

DR. ALFRED STILLÉ died at his residence in Philadelphia, September 21, at the age of eighty-one years. Dr. Stillé at the time of his death was professor emeritus in the University of Pennsylvania. His contributions to medical literature were numerous and valuable. Among the most important was the "Treatise on Materia Medica and Therapeutics," published in 1860 and the "National Dispensatory," in conjunction with John M. Maisch, published in 1879. Death has been unusually busy during the past few weeks in removing men of marked note in our profession, as teachers and authors, including some of its leading men, Sayre, Stillé, Da Costa and Hunter McGuire, all of whom have left an enduring fame.

BIBLIOGRAPHICAL.

DIABETES MELLITUS. Its Detection and Successful Treatment. Selections from the Literature of the Subject. Chas. Roome Parmele Co., New York.

This little brochure covering the recent literature on this subject, and which may be had for the asking, is an instructive and interesting treatise well worthy of perusal. Our readers should obtain a copy by addressing as above.

A MANUAL OF OTOTOLOGY. By Gorham Bacon, A.M., M.D., Professor of Otology in Cornell University Medical College, New York, with an introductory chapter by Clarence E. Blake, M.D., Professor of Otology in the Harvard Medical School, Boston. \$2.25. Lea Brothers.

So great was the popularity of this treatise on the ear that a second edition has been called for in less than two years. The first edition has been thoroughly revised and brought fully up to date. Twenty-five pages of new matter have been added, and a more extended consideration given to the Schwartz-Stack operation and to the use of the normal saline solution in intravenous injections. The illustrations are excellent, and form a very important feature of the book.

We hear that the long looked for edition of Dr. Sheldon Leavitt's work on obstetrics is promised for delivery early in November. The reputation of the author as a writer and obstetrician insures a hearty reception to the book.

LITTEL'S LIVING AGE.

It is hardly necessary to call the attention of our readers who desire to keep in touch with the best magazine literature of the old world to the fact that in no way can this be so well accomplished as in the pages of the *Living Age*, which for nearly half a century has every week culled from the magazines of the old world some of the best articles from some of the ablest writers in every department of literature.

THE TWENTIETH CENTURY MAGAZINE.

A new century brings new conditions and new methods of meeting them. Fifty years ago the average American was content to get his news once a week. Now he demands it twice a day, with relays hourly when things are happening in Africa and China.

The Curtis Publishing Company bought *The Saturday Evening Post* because it believed that the public which demands its newspaper twice a day, would want a popular literary magazine once a week, provided it adjusted itself to the new conditions and rightly gauged the demand of the twentieth century. And that demand, it felt, would be for a magazine of the best quality that money and brains could make, sold at as low a price as modern machinery and methods could produce it.

To improve the quality and at the same time lower the price of a publication, two things are necessary—a great circulation and the best machinery that human ingenuity can devise. The first has been achieved, for *The Saturday Evening Post* has a weekly circulation of a quarter of a million, and new subscriptions are coming in at the rate of a thousand a day. Again, its ten new presses have just been installed in its new eight-story building, which, together with its old facilities, give it the largest and most complete periodical plant in the world.

This addition to the equipment of The Curtis Publishing Company, with the auxiliary machinery specially designed for *The Saturday Evening Post*, the whole involving an outlay of half a million dollars, will enable it to lessen the mechanical cost of the magazine, and to print the edition of 500,000 weekly toward which it is rapidly growing. And this cheapening of cost and increase of circulation will permit the publishers to make permanent the price which, under old conditions, they were able to put out only as a special and limited offer—a year's subscription to *The Saturday Evening Post*, fifty-two numbers, including the regular monthly double numbers and the special holiday issues, for one dollar.

TWENTIETH CENTURY PRACTICE. Wm. Wood Co.

The concluding volume of this exhaustive international encyclopedia is devoted to Tuberculosis (Bacteriology, Pathology and Etiology, by August Jerome Lartigan, of New York; Symptomatology, by Henry W. Berg, New York; Diagnosis, Prognosis, Prophylaxis and Treatment, by S. A. Knapp, New York). Of the Skin, by John T. Bowen, Boston; Yellow Fever, by Wolfred Nelson, New York; Poison-

ing with Snake Venom, by Thomas R. Brown, Baltimore, Md.; Mushroom Poisoning, by Beaumont Small, Ottawa; Neural and Mental Defects of Childhood. The work closes with a very full general index of 430 pages. We can only repeat, at the close of this most important work in all its departments ever issued by the medical press, the high estimate we have repeatedly expressed of not only the scientific but literary ability shown upon every subject treated.

The *Century Magazine* for 1901 promises its readers a rare treat in the field of romance, numbering among its contributors in that department alone more than thirty of our most popular authors. The other departments of the magazine, history, science, and general literature, will maintain the high standard which has made it so popular among cultivated readers. The November *Century* contains the commencement of a series of papers on Daniel Webster, profusely illustrated by J. B. McMasters, authors of a "History of the People of the United States." Julian Ralph has in the same number an article entitled "Yankee Correspondent in South Africa."

The *Ladies' Home Journal* has grown from 20,000 copies to 923,000 in seventeen years. More than ninety-five million copies—to be exact, 95,237,523—of the *Ladies' Home Journal* have been issued since the magazine was first printed, seventeen years ago. December, 1883, was the *Journal's* birth-month, and the first edition aggregated, all told, twenty thousand. The magazine was well received at the very start, and from that time on its growth has been phenomenally rapid, the increase never halting, until the circulation has reached nine hundred and twenty-three thousand copies a month. During the past eleven months the increase has averaged forty-seven thousand copies per month over the corresponding interval of last year.

CORRESPONDENCE.

"THE NEW METHOD OF INDUCING SLEEP WITHOUT DRUGS." ONE HUNDRED DOLLAR PRIZE.

To the Editors of THE MEDICAL TIMES:

"The New Method of Inducing Sleep Without Drugs" consists in bringing under will power the functions of organic life immediately on retiring. The organs of respiration and circulation respond to our bidding. Certain other groups of muscle, by contraction and relaxation, may be made accessory in directing the arterial and vital currents away from the gray matter of the brain. As a result, automatic thinking, which is the immediate cause of sleep's delay in the case of the average brain-working business man, is absolutely shut out, and normal sleep is inevitable.

To give the technique in full would require more space than can be used here. Suffice it, that mental and physical conditions, positions and changes, extemporized and controlled by will power in the horizontal position, with suitable temperature and ventilation of body-surface as well as lungs, is the sheet anchor of "The New Method."

Believing that the medical profession has power to turn the attention of suffering humanity from the mysterious chimerical and damaging drug agents they now depend upon, and that it is our duty to shed light rather than darkness, I offer a prize of one hundred

dollars for an essay which shall describe any method of extemporizing sleep immediately on retiring for the brain-working classes, that will equal or surpass "The New Method" above referred to.

Time allotted for preparing essays, from date of this issue to July 1, 1901. Length of essay not to exceed five thousand words; to be in print or typewritten, without the name of the writer. Judges of the merits of essays shall be representative men of scientific medicine. Time for awarding prize, Sept. 1, 1901. Results will be announced in this journal.

J. B. LEARNED, M.D., Northampton, Mass.

THE SITUATION IN GALVESTON.

To the Editors of THE MEDICAL TIMES:

The situation in this city presents many interesting problems in sanitation and preventive medicine. Galveston is located upon an island 38 miles long and about 4½ miles in width at its widest point. In no place is the island higher than nine feet above mean high tide. The city (population 49,000, census 1900) was very compactly built, the business center being closely filled with well constructed brick business blocks. The flood of Saturday night completely covered the eastern and western ends of the city, in which the residences were located. Saturday morning the wind blew steadily from the southeast at a rate of 15 miles an hour. At 3 P. M. the wind rapidly increased in velocity, until at 9 P. M. the wind blew about 100 miles an hour. It then changed, and the waters of Galveston Bay rolled in from the north. During the storm the water varied in depth from 4 feet around the Tremont Hotel to 12 and even 20 feet in the outlying parts of the town. By 8 A. M. Sunday the water had entirely subsided, leaving about six inches of mud from the bay over all.

Prior to the storm the sewage system emptied into the bay. Sunday and Monday were very warm and the bodies of the dead seriously threatened the health of the people. Sunday an attempt was made to remove a few of the bodies and to construct some sort of a passageway through the debris on Tremont street from the bay to the gulf. The dead were loaded on barges by forced labor and buried in the gulf. By Tuesday these bodies began to be washed up, and the plan of burning them was adopted.

The water supply of Galveston is brought from Alta Loma, on the mainland, 20 miles distant. The pipe from the mainland is laid on the bottom of the bay west, that is beyond the railroad bridge. The British steamship *Roma* was driven through all the bridges by the storm, but fortunately did not damage the water pipe. As there is no fresh water on the island, the destruction of the conduit would inevitably have caused many deaths.

Monday the communication with the world was resumed, but under the strictest precautions. Even now it is almost impossible to enter the city on any pretext. John Grant, United States Marshal, proclaimed martial law at once. The Texas Rangers and First Texas Infantry maintain order on the island, and the United States troops on the mainland between Galveston and Houston, but 50 miles away.

Drs. Trueheart and Dillinger have charge of the sanitation of the city, which is divided into nine districts, each under a superintendent. Under him are the gang bosses, who work the forced labor in clearing the streets. They distribute supplies to all who work and to the destitute who are injured. Any person found on the street by a guard without a pass signed by Adj.-Gen. Scurry, who commands the city, is liable to be im-

pressed into service as a laborer. Disinfectants are used freely and are now the most pressing need of the city. They burn the dead right where they find them, first making every effort to identify the body.

Up to this morning over five thousand dead have been recovered on the island alone, and for the last two days have been found at the rate of 140 a day. The city is filled with relief expeditions sent by the *Chicago American*, *The Philadelphia North American*, *New York Journal*, *Philadelphia Enquirer*, and by many boards of trade throughout the country. However, the most deplorable friction exists between the reliefs and a small portion of the local profession. Clara Barton arrived yesterday and has already done much to restore co-operation.

The health of the city is astonishingly good. There are but few injured, everyone who was hurt drowned in the storm. As yet no epidemic of any kind has occurred, but great fear prevails. Last night a rumor gained circulation that yellow fever had broken out in the wrecked district. The Adjutant-General arrested several physicians and a number of newspaper men whom he considered responsible, but they were shortly afterward released.

The death rate here is very low. The weak have all died, and none but strong adults are left. The restoration of the water supply has helped greatly. The engines were repaired and are now working under the sky as a roof. The extent of this destruction of life can never be accurately estimated. The death list will reach 6,000 at least. It will be known as the greatest flood of modern times.

FRANCIS DUNCAN.

Galveston, Texas, Sept. 18, 1900.

HOSPITAL REPORTS.

TREATMENT OF BRONCHO-PNEUMONIA IN CHILDREN, AT WOMEN'S HOSPITAL, PHILADELPHIA.

THIS child is two years old. It had whooping cough one year ago and last summer had summer complaint. It is troubled with diarrhoea, poor appetite and a slight cough. The temperature has been up to 104.8°. There is in the surroundings of this child a suspicion of gastro-enteric infection.

Examination of the skull shows us it is narrow. The forehead runs up almost to a peak. It is impossible to obtain through the grandmother here any specific history, nor is there about the child evidence of a specific nature. The pupils are equal, the lids have a mucopurulent secretion; a moderate dyspnoea is present. I do not detect any enlargement of the lymphatics of the neck. Examination of the throat is strictly negative; but there is a typical "furring" of the tongue. There is a condition of a sluggish state of the intestine. Coming to the thorax, the contour is not significant of disease. The respiration is abnormal; the abdominal wall is held in a tense position, the recti muscles being held to prevent movement. I get a very distinct bronchial fremitus. There is a snoring, rough sort of respiration, with no small râles, but an occasional large one.

The child has a beginning broncho-pneumonia of doubtful origin. It is possible, too, that the pulmonary condition masks a typhoid infection, in view of the gastro-enteric condition that is present. It is broncho-pneumonia of the first stage, not the stage of mucous outpouring. Now I warn you, in view of the appearance of the tongue, the temperature at this time of day,

that it would be improper to make a diagnosis of broncho-pneumonia alone.

A child may pass through the acute stage and apparently begin to digest food again; then, with no apparent reason, the child becomes stuporous, passes into convulsions and dies. What has happened? Any child that has been under any sudden and serious drain is subject to congestion of the brain. One child of about ten to fourteen months passed through a characteristic gastro-enteric infection, had been for thirty-six hours quite comfortable, and the temperature had dropped, when exactly what I have described to you took place.

What can be done to ward this off? To ward it off care should be taken to supply the child with fluid. Stimulus must be continued after there is apparent convalescence. Brandy for one week after the temperature has dropped. Exposure and long journeys must be avoided. When it comes, it comes like a lightning stroke, and is inexplicable. In other cases there follows a genuine chronic gastro-enteric catarrh, and mucus continues to appear in the stools. The child is subject to colic, and does not gain in weight as it should. In these cases there are two things to remember: 1, regularly clean out the bowels with lavage; 2, bring its food down to the point of assimilation, and have as little waste as possible. If it can take but ten ounces of milk, and assimilate it, the child is fairly well. There will be opposition on the part of the nurses and relatives, and you cannot trust the mother to feed the child under these circumstances. The second steps in the treatment consist in giving tonics which will bring about a healthy cell formation and mucous membrane. Fowler's solution and the bisulphide of arsenic may be given, the latter in pills of 1-100 to 1-50 grain, three times a day. In some cases, creosote in doses of one-half drop three times a day. Careful feeding of oils and fats is important. Good climate is a great luxury and help.

Sometimes we meet with very profound and severe anæmia, in which the tissues absolutely melt away. In some cases this produces perforating ulcer of the cornea, bed sores and affections of the axillæ and groins, with an excoriated condition of the skin. At the present time the mortality of these acute diseases is tremendously lowered by our simple method. The mortality of the secondary affections is not very much lessened.

We come now to speak of the peculiarities of disorders of the respiratory tract in the child. In this line a most common is broncho or catarrhal pneumonia. The bacteria of infection are the pneumococci, sometimes the bacillus of the colon, streptococci and staphylococci—any form which is readily obtained from the human lungs. You know the atmosphere at times becomes very readily polluted, and a child in inspiring takes in all the forms of bacteria. Therefore the child should not be allowed on the street, especially in certain months. A child born in September need not be out of the house till May or June. Children can be aired up in a second or third story room, and you can deliberately tell the mother: "If you want to avoid broncho-pneumonia keep the child up in the house." If the child is sent to the square it is sent to the depot of infection. The child should be kept off the streets in the winter months, when snow and refuse are in the streets.

The course of the disease depends on the vigor of the child and the virulence of the bacteria. The mortality of broncho-pneumonia in young children varies from 40 to 65 per cent., the mortality of lobar pneumonia in children is 4 to 6 per cent. Let me follow a case with you to show what will happen. An infant of ten months has

various symptoms, with gastro-enteric disturbances. Calomel, ipecac, quinine, are given—eight drugs in all, most of them depressants. No diagnosis was made, but about each day it was changed to suit the symptoms. The case drifted along until the temperature was 106°, and the pulse almost uncountable. The lungs were full of râles. A child can drift along in this condition with only a minimum of cough, and if this case had gone on there would have developed cyanosis. When the skin has simply a dusky hue the first grade of cyanosis is indicated, and the heart is still active. When the face is pallid it denotes asphyxia, and the heart is not acting. It is the same thing in these pulmonary disorders. If they are not promptly relieved you have asphyxia developed. Probably the child's heart is failing, and gradually stupor comes on, asphyxia becomes profound, convulsions set in, which are unconscious convulsions, and finally the end comes. On autopsy the entire respiratory tract should be dissected out and examined, beginning from the trachea above. You will find the presence of a muco-purulent secretion in the infundibula, and dark colored areas produced by leakage from the capillaries. Areas of almost normal lung are just beyond this.

What are the cardinal principles of treatment? I will repeat them briefly: First, do not give a depressant if possible, never an antipyretic; these I believe to be therapeutic mistakes. Control the temperature and congestion by the use of cold and sometimes heat. Stimulate and feed the child; stimulate especially the respiratory passages. In the first place, you tend to prevent the congestion by the application of cold turpentine stupes. Occasionally when there is cyanosis a hot mustard bath will make a tremendous clearing up. As to internal remedies there are the ammonia compounds and small doses of alcohol, aromatic spirits of ammonia or the chloride or muriate or carbonate—if the child can bear it. Alcohol is to be used but not abused, and given in moderate doses. When it comes to the need of strychnine and atropine, strychnine is to be given hypodermically and under aseptic precautions. Atropine, 1-200 to 1-150 grain, is of great value when cyanosis is developing. The sulphate of strychnine is usually employed. There should be at hand oxygen for inhalation; we know it makes the child breathe. Feeding can be with pancreatized milk and broth. Some of the formulæ for pancreatizing and peptonizing milk contain brandy and some do not. You may put nourishment and stimulus in by the bowel. By these methods you will cut down the mortality to less than 40 per cent. For lobular pneumonia, with consolidation, rise of temperature and rapid respiration, the treatment should be in feeding, stimulating, and good nursing; with watchfulness no drugs are needed. Let them alone and they'll come home with their lungs behind them.

Pleurisy the child will get, as the adult does, by infection and by extension. There may be an effusion. Pleurisy is not a common thing in children. It is almost impossible to diagnose; you have rather to infer it. The lung is not so well enfolded as in the adult, and the pleura does not move with such freedom, and we do not have the same friction rub. The patient may have quite an effusion without your knowing it.

Treat the child. As Josh Billings says: "Treat the patient, and let the disease care for itself." Treat the pleurisy second. Sustain the child, reduce the temperature, nurse it well and watch, with the hope that if an effusion is produced it will become localized. If it is not disappearing but crippling the lung, then, of course, per-

form an aseptic operation. Occasionally we see a purulent effusion. We used to do resection of the ribs, but this is not done for children now so much. Excellent results follow drainage. I remember one man who was a fine example of physical manhood. He had had pleurisy in his youth and after this he began to lop over from the contractions in his chest and partially relapsed lung. He was in the village store one day when an old farmer remarked "he was not sure they could raise him." Then he began persistently to practice pulmonary gymnastics, until when I saw him he had one of the finest developed chests I ever saw.

PALLIATIVE TREATMENT OF RECTAL DISEASES.

THE treatment of disease of the rectum in men and women is increasing very noticeably in general practice. This is traceable directly to errors in diet and to diseases of the digestive system, which are so common among Americans. Neglected cases of ordinary constipation, the use of patent purgatives (the majority of which are positively injurious and often the cause of constipation), violent treatment of the bowel with metal syringe tubes, sedentary habits, excessive bicycle riding on injurious saddles, these are some of the many causes of rectal diseases in men and women.

"In a clinical lecture, Dr. Kelsey (*Int. Med. Annual*, 1899) calls attention to the fact that in women the greatest obstacle to the success of any form of treatment of diseases of the lower bowel, either operative or non-operative, will often be found to be the co-existence of some form of uterine, ovarian or bladder trouble. The same treatment applies to many affections of the urinary organs in men, such as enlarged prostate and irritation of the neck of the bladder. All suspicious cases where there is ulceration must be subjected to the microscope."

Pruritus, painful or irregular defecation and hemorrhage are the symptoms which usually attract the first attention and suggest disease. Undoubtedly much of the distress and discomfort in the rectum of which patients complain, is caused by indigestion and treatment directed to overcome that condition will afford general relief. But whether the disease be of a mild or severe nature, there are certain indications in every case, and not the least in importance is cleanliness. To attain this we must employ external and internal antiseptics. It is remarkable how soon some cases of pruritus ani and constipation will get well with a short treatment of Pepsin. It acts very satisfactorily in cases of dyspepsia and indigestion. "In physiological activity it presents the active and mother ferments of the entire group of digestive organs, it aids digestion by furnishing an additional supply of protoplasmic material out of which active ferments are elaborated and it perfects the process by increasing cellular activity." This is beginning at the root of rectal troubles by removing the cause. All efforts at cure are useless if we do not pay close attention to the digestive system and to the exciting causes, whatever they may be. But for the local treatment, I have the following to suggest: We can best reduce the inflammation by the use of injections, suppositories and ointments.

The syringe tube in the treatment of rectal diseases must be of soft rubber, just hard enough to insure easy insertion for four to five inches, a bulb-shaped tube with apertures at the termination and at the neck of the bulb:

This secures a thorough and a painless washing.

R Zymocide..... ̄ ii
Aqua (100g)..... ̄ iv

The Injection.—Use either large bulb or fountain

syringe morning and evening. After the injection use suppositories of either Zymocide or Protonuclein. These are best employed after thorough washing of the rectum with the warm Zymocide injection already referred to. The suppositories are made with gelatine, are two inches long and one-half to three-fourth in diameter. Protonuclein is an excellent local application, Zymocide and Protonuclein can each be combined with cosmoline, vaseline or lanoline, forming an ointment especially valuable in the treatment of external or internal hemorrhoids. When the suppositories are used, a part of absorbent cotton should be placed over the anus and held in place by a suitable bandage.

In the treatment of these diseases no other medicine should be employed in combination, neither quinine, iron, zinc or any of the many astringents which are so often employed in ointments and injections.

With the use of Zymocide and Protonuclein the treatment proves very satisfactory and the after conditions, which, in some cases, seem quite as uncomfortable as the disease itself and which are pretty certain to follow the old way treatment, are wanting when Zymocide has been employed. I have used Zymocide for several years and its soothing, healing properties for inflamed surfaces is simply remarkable. For injections or for a wash I know of no better remedy, and therefore do not hesitate to recommend it.

RETROSPECTIVE THERAPEUTICS.

Stypticin.—Led by the many excellent reports regarding the hemostatic power of stypticin, Prof. H. Walther, of Giessen (*Zeitschr. f. prakt. Aerzte*, 1900, No. 7 and 8), employed the remedy in nearly 100 cases, comprising excessive menstrual hemorrhages, particularly among millipara and young girls; in climacteric hemorrhages, where no other particularly malignant complications existed; in irregular discharges, aside from menstrual discharges, with great tendency to hemorrhage, and particularly those following operative measures, e. g., curetting; and in hemorrhages due to diseases of the adnexa, para- and perimetritis, and also in displacements. In 75 per cent. of these cases the results obtained were very good; in the balance the hemorrhage required operative treatment, such as thorough curetting. An excellent influence was also exerted in a case of preclimacteric hemorrhage, in which the development of malignant neoplasm could be with certainty excluded. In cases where hemorrhage persisted despite previous curetting, the author continued with the use of stypticin, and tamponing of the uterus with iodoform gauze. Denzel's hemostatic tincture was given in alternation with stypticin in these cases for a week or so. Of thirty cases so treated not a single non-success was recorded. In hemorrhages consequent on child-birth, particularly in abortion, the author gave stypticin in seven cases, but with not much better results than could be obtained with ergot in such cases. In cases where there are ovarian or placental residues, stypticin is contraindicated, and an operation is necessary.

Stypticin appeared to exert a particularly valuable reflex action in cases where hemorrhage was due to abnormalities in the adnexa, and not to the uterine mucosa, i. e., chronic thickening and coalescence of the ovaries and tubes, with displacement and swelling of the uterus. In these cases the remedy, particularly with the employment of ichthyol, etc., gave unusually good results in most cases. In nine cases of intramural myoma the hemorrhage was completely checked by

means of stypticin; two of these required operation later, because of large-sized submucous fibroids, but the hemorrhage was nevertheless well controlled up to the time of operation.

The author finds that stypticin may be given during pregnancy, as he has given it in two cases of hemorrhagic endometritis with success.

In forming a judgment regarding the value of stypticin, the author states that the treatment of over 100 cases during a period of several months has shown the remedy to possess a sedative, hemostatic action; and that the remedy may well be employed in all cases where the hemorrhage is not due to anatomical causes; and in all gynecological cases particularly, as well as in post-partum hemorrhage, abortion, etc., although in these last it is best used in conjunction with ergot. In carrying out the treatment with stypticin, tablets containing $\frac{1}{4}$ grain of the remedy were employed; for hypodermic injections a 10 per cent. aqueous solution was used, the injections being preferably made in the gluteal region. In none of the cases treated were any subjective symptoms ever noted, or complained of by the patients.

A New Remedy in Urethritis.—Dr. Ramon Guiteras, in the London *Lancet*, states that he has thoroughly tried mercuriol in his clinic, and from his experience has drawn certain conclusions which he presents in this paper. After describing the chemical nature of mercuriol he states that he found the weaker solutions had little effect and the stronger solutions were at first irritating. He finally concluded that the average strength best borne by the patient is ten grains to the ounce, or approximately two per cent. After having reached this conclusion he had the histories of 100 cases recorded, in 33 of which an examination for the gonococcus was made, revealing its presence in 30 cases. In the remaining 67 cases a clinical diagnosis was depended upon, since the writer considers the experienced eye competent to recognize the disease. In one extremely interesting case no gonococcus could be found in the urethral discharge, although gonococci were present in that of some venereal ulcers on the glans.

In these cases a two per cent. solution of mercuriol was ordered which the patients were directed to inject three times a day, after micturition; the injection to be held within the urethra for five minutes at each operation. The clinical reports of the cases show that frequently in two days after beginning the use of mercuriol gonococci could no longer be found in the discharge.

The author discusses at some length the value of the term "practically cured," and sums up his argument by saying that to draw conclusions of value we should consider only cases that have been under treatment for three or more weeks, omitting those making but a few visits. On this basis he eliminates all but 65 cases from his report and tabulates these as follows:

Ten cases were cured in four weeks, or 15 per cent.; 15 cases were cured in six weeks, or 23 per cent.; 20 cases were practically cured, as there was no discharge, though there were some shreds in the urine at the end of from four to eight weeks, 30 per cent.

One of the most valuable observations that the writer has observed is the fact that only two cases suffered from complications, one having developed gonorrheal rheumatism and the other epididymitis. He states that this fact in itself would tend to argue

much in favor of the use of mercuriol, for where is there any other solution or mixture which does not show a greater percentage of complications? When we consider that many writers claim that epididymitis occurs in 20 per cent. of all cases of urethritis, the rate of 1 per cent. reported in this series of cases argues much in favor of mercuriol as a harmless, yet efficient injection.

Another interesting feature is that in only one of the 100 cases was there any marked posterior urethritis. Therefore it would seem that mercuriol quickly destroys the gonococcus, lessens the severity of the inflammation, and tends to prevent the development of complications. From a comparative study of the different methods of treating gonorrhea the author concludes that treatment with mercuriol is an advance beyond the older methods with balsamics and astringent injections.

Fever and Its Treatment.—In dealing briefly with this vast subject H. A. Hare, M.D., in the *International Medical Magazine* for last August, enunciates three propositions:

First—That fever, when excessive or prolonged, is harmful.

Second—That moderate fever, not too prolonged, need not be invariably deleterious.

On this basis Dr. Hare makes a strong plea for the application of cold water, the temperature varying with the necessities of the case, as by long odds the most efficient means that we have for reducing temperatures harmful to patients.

And emphasizes, as a point of great importance, the use of active rubbing or friction of the body and extremities of the patient while cold water is being employed.

Finally, dwells upon the advantages of this method of dealing with temperatures above the normal over that by the exhibition of antipyretic drugs, which depress the nervous centers, increase the work of the emunctories and prevent the development of leucocytes.

Cutaneous Cancer Cured by Roentgen Rays.—Stenbeck, of Stockholm, in *Mittheilungen aus d. Grenzgebiete d. Med. u. Chir.*, Bd. VI., No. 3 (*Med. Rev. of Rev.*), briefly reports a case of cancrroid healed in the above manner, which is claimed by him to be the first of the kind on record. The patient, a woman, aged 72 years, was exhibited before the Swedish Medical Union, the diagnosis of rodent ulcer was made by Professor Berg, and the case referred to the Roentgen Institute.

Daily sessions were begun of ten to twelve minutes' duration, the lamp being held fifteen to twenty cm. from the surface. After four sessions the reaction began, and, after eight or ten exposures profuse suppuration was in evidence, becoming less with time. After thirty-five sessions the ulcers began to look clean and smooth, the epidermal islets were cast off and new epithelial tissue began to form.

The treatment now became more vigorous, exposure prolonged to fifteen minutes each at only ten cm. distance. A weak reaction appeared, but the new-formed epidermis was not affected, and it was evident that a complete cure had resulted.

The greatest resistance was naturally offered by the hard wall-like circumference of the ulcers. An entire month was required to overcome it. It decreased in height and width, then broke up into individual segments, which in time completely disappeared.

Electric Treatment of Exophthalmic Goitre.—Regnier, of Paris (*Journal of Electro-Therapeutics*), uses a galvanic current, applying a negative pad, twenty sq. cm., at the back of the patient, and a positive pad, eighty sq. cm., over the tumor in the neck. A current of from five to ten ma. is used, and is applied from twenty to thirty minutes. Treatments are made every other day. Six cases are perfect cures. No return has been manifested in three years. Three cases were improved and one abandoned treatment after a few sances. This last was a young girl with unilateral goitre and exophthalmia on the right side. Electrical resistance on the right side was 800 ohms; on the other it was 1,200.

Carbolic Acid in Aural Suppuration.—Dr. W. C. Philipps, in the *Medical Record* for August 25, advocates the use of pure carbolic acid in suppurative conditions of the ear. He applies it with a cotton swab or by an atomizer, allowing it to remain *in situ* thirty to sixty seconds and then neutralizing it by alcohol. It is without a peer, in his experience, for all cases in which suppuration exists about the ear or its accessory channels. He says that unhealthy granulations become normal, discharge ceases and secondary operations are avoided.

Treatment of Hiccough.—Noir (*Progrès méd.*, January 6, 1900), after reviewing the various methods of treating obstinate hiccough, gives the preference finally to vigorous traction of the tongue (Laborde's method) on account of its simplicity and efficiency. It has given excellent results in his hands. In a nervous girl, aged 6 years, who was completely exhausted by hiccough of over six hours' duration, traction of the tongue for a minute gave immediate and permanent relief. In a second case a patient with advanced diabetes, complicated with tuberculosis, hiccough, which had already lasted several days and which had resisted all other remedial measures, promptly yielded to Laborde's treatment continued for about two minutes.

Treatment of Wens with Injections of Ether.—Vidal first suggested treating sebaceous cysts with an injection of pure ether into the depths of the wen, repeated every other day for four or five days. A large cyst requires an injection every twenty-four hours. Sargent has thus cured thirty cases, and states that this treatment is never painful. There is no bleeding nor danger of any kind if aseptic precautions are duly observed. It is so simple that no special skill is needed, and it leaves no scar nor trace of the vanished wen. No other method combines one-half of these advantages.

Petroleum in the Treatment of Phthisis.—The petroleum products known as vaselin, terralin, etc., are suggested by Robinson (*Med. News*) as valuable agents in the treatment of phthisis. The material which he has used has been a perfectly refined product, and he gave it in 2 dram doses four times a day, for a period of from three to six months, in every instance with increase of weight, improvement in health, strength and feeling of well-being. The gain was from five and one-half to twenty-three and one-half pounds, and there was no other treatment which could be held responsible for it. The treatment gave no discomfort in any case, as the material is absolutely indigestible and unchangeable in the intestinal tract and passes through unaltered. Fermentative and putrescent changes were controlled and normal functions along the entire tract were re-established. The intestinal toxins were either

not formed or were carried off by the petroleum. Indican and sulphates disappeared from the urine. The effect he considers entirely mechanical. Petroleum is also an excellent solvent for many remedies useful in the treatment of phthisis, and by the addition of a little ether, chloroform or oleic acid its power to dissolve is greatly increased. It is the best medium for the conveyance of remedies by nebulization to the throat and bronchial tubes. It is an ideal remedy for all forms of constipation and for tuberculous diarrhea.

RETROSPECTIVE DIETETICS.

Weeds Good to Eat.—The dandelion isn't the only weed eaten by people who know what's good to eat (*Public Health Journal*). Take wild chickory, the plague of the farmer. It makes one of the finest salads served, piquant, tender and wholesome. Charlock, or wild mustard, is another bane of the farmer. He doesn't know that as a potherb it can give a soup a delightful flavor. The dockweeds—how annoying the whole family are! Yet the broad leaf variety and the curly leaf are used all over Europe as table vegetables. There's pokeweed, commonest of them all. In France it is cultivated. It takes its place with sage, thyme, parsley and bay leaves as a flavoring for soup.

Everybody in America hates a nettle and can't see what use it is. In Scotland, Poland and Germany tender young nettle leaves are used as greens. The Germans boil it with other vegetables to give them a piquant flavor. Purslane is another weed that can be treated in the same way.

Most people think milkweed poisonous. It is a medicinal vegetable with a delightful flavor all its own. The young leaves, when they are in just the right condition, are a cross between spinach and asparagus, and in a salad are delicious.

Sorrel, fetticus and chevril are looked upon as field pests by ninety-nine out of every hundred farmers. The hundredth one picks the choicest leaves from these weeds and sends them to market, where they find a ready sale for salads to be eaten with game and for flavoring herbs—for herbs they are and not weeds.

Fish Diet and Leprosy.—A correspondent of the *Medical News* (July 7, 1900) writes that at the polyclinic Mr. Jonathan Hutchinson showed a case of recovery from leprosy. All evidence of active disease had been absent for six years. The words "cure" and "recovery" meant cessation of disease processes, not absolute restoration to normal condition. He mentioned another case of a florid, healthy-looking man quite blind from leprosy, whose hands were to some extent helpless from anesthesia and muscular atrophy. But for fifteen years he was free from aggressive symptoms. In the first case mentioned when the patient came under treatment he had patches on the arms and legs, enlarged ulnar nerves and dusky hands and feet from passive congestion. The treatment consisted in small doses of arsenic, liberal diet and abstinence from fish. In about eighteen months all traces of patches had disappeared from his hands and feet. From that time unusual slow restoration progressed, the hands became less dusky and somewhat less numb, and the ulnar nerves smaller. The patient enjoyed good health except that he suffered from dyspepsia. As long ago as 1879 Mr. Hutchinson published a case of recovery from leprosy. A woman returned from Barbados with leprosy in the most severe form—the tubercular. In the course of years, whilst residing in England, she recovered, but her hands remained numb and crippled.

She was enjoined to abstain from fish. Mr. Hutchinson has since then seen many cases of recovery of lepers who have come from abroad to reside in England. The same observation has been made in America as to Norwegian lepers. Mr. Hutchinson attributes the fact that little or nothing has been heard until lately from leper establishments as to recovery to the fact that fish has been an important element in their dietary. Quite recently Norwegian authorities have asserted the curability of leprosy. Dr. Hansen has seen many cases, principally of the anesthetic form, but a few of the tubercular. In some a necropsy failed to reveal the bacillus in any viscous.

The Relative Value of Certain Articles of Diet in the Treatment of Disease.—The *Therapeutic Gazette*, in a paper on this subject, says that, as a matter of fact, there are no chemical data which justify the prohibition of red meats, such as mutton and beef, in the treatment of Bright's disease. Such data as exist seem to be founded upon the supposition that dark meat contains a larger proportion of nitrogenous extractive than does white meat. But this is not borne out by the result of chemical analysis, which shows that the difference between them, so far as extractive is concerned, is very slight.

A careful analytical paper by Offer and Rosenquist, published in the *Berlin klin. Wochenschrift* in the latter part of 1899, and also quoted in the *Scottish Medical Journal* for February, 1900, gives accurate tables which show that there is no support apparently for the theoretical difference between white and red flesh, and these authors do not believe that we are justified in excluding red meat from the diet not only of cases of Bright's disease, but from the diet of those who are gouty—that is, provided that we are willing to permit these patients to eat meat at all. Whatever may be the ultimate result of this discussion, we believe that there is one point which is not to be overlooked, namely, that some of these patients at least may be allowed small quantities of red meat often enough to prevent them becoming entirely disgusted with white meat, and also from becoming restive and uncontrollable upon the diet which is ordered.

Finally, it is not to be forgotten that it is by no means necessary to employ skimmed milk as a drink and nutriment for these patients. Unskimmed milk, which contains a large quantity of fat, is therefore far more nutritious, and is infinitely better for such patients if they can digest it, and most of the patients who can digest skimmed milk can digest ordinary good milk which has not been skimmed.

Olive Oil for Gastric Cases.—At the international medical congress, Dr. Cohnheim, of Berlin, detailed his experience with large doses of olive oil in cases of severe gastric distress. In his first case the young man had suffered from an injury in the gastric region, and it seemed probable that a traumatic ulcer had resulted. The pain on eating was so great as to make the patient avoid food. A wineglass of olive oil taken before meals gave complete relief. The same remedy was tried in other cases in which stomach discomfort was a prominent symptom. Even in cases of gastric cancer relief was afforded to many symptoms. In cases of pylorus stenosis most satisfactory results were secured as far as the alleviation of symptoms was concerned. Besides, the dilatation of the stomach that existed began to diminish, and eventually in some cases disappeared completely. Cohnheim has treated twelve cases of gastric catarrh by this method with

uniformly good results whenever the patients bore the oil well. In one or two cases this method of treatment was tried as an absolutely last resort before operation, and it proved successful. Patients who had lost so much in weight as to appear almost cachectic began immediately to gain in weight, and within a couple of months gained from fifteen to thirty pounds.

Professor Mathieu, of Paris, said that in certain of the country parts both of Germany and France olive oil is used as a family remedy for all stomach pains. It is most effective and has a high reputation. In his practice at the Hôpital Andral Dr. Mathieu has often used this remedy and knows how efficient it is where less simple remedies have failed. He recommends it with confidence despite its utter empiricism and lack of claim to any scientific basis.

THE NEWER TREATMENT OF NERVOUS CONDITIONS.

THE TREATMENT OF CEREBRO-SPINAL FEVER.

THIS case, which is one of cerebro-spinal fever, exhibits the position which is often assumed: The patient lies on one side with head retracted and thighs flexed, and there is a stiff appearance to the hands. The prognosis is decidedly unfavorable. The patient has distinctly lost ground since he was shown on Saturday last. The pulse is feeble, the skin lifeless, inelastic and mottled. I have been more impressed with the rapid emaciation in this than in any other acute disease. I know of no one of the acute diseases in which wasting is so rapid. And it seems to me that in doubtful cases this rapidity of wasting would be of diagnostic value. I bring the case in to-day to call your attention to the fact that some time after the patient came in we thought it wise to draw off a certain amount of the cerebro-spinal fluid. This operation has been performed in many cases of cerebro-spinal disease with the hope that by relieving internal tension the symptoms would be relieved; and it has been performed more for diagnostic purposes, for the hopes of cure afterwards have not been altogether fulfilled. In this case in the half ounce of fluid removed the pathologist found the characteristic infective principle, the diplococcus intracellularis, and in this case the therapeutic effect was favorable, and for several days after the operation the patient showed signs of amelioration of the disease. I had intended to have Dr. Stewart perform this little operation in your presence to-day. Here we stand face to face with one of those problems which meet us so frequently. Experience and judgment argue against any operative procedure where the lethal termination is at hand. Hope and the therapeutic indications of our times stand in favor of the operation. Dr. Stewart and I are of one mind that we should refrain; the operation is hardly desirable and the beneficial results are so transient. Perhaps the lesson will be a more important one for you, to learn when judgment must come in.

The treatment has been in the use of opium, largely Dover's powders. This method of treating the disease has proved better than any other. Stimulants have been given; food that is highly nutritious. But the disease has been making progress. The signs of infection have been more prominent than those of local pressure.

SYPHILIS OF THE BRAIN.

This woman had malarial fever eight or nine years ago. She was in this hospital last March with an attack of influenza, and at that time she had some albumi-

nuria. She has, except for these illnesses, a history of good health. About three or four months before she was admitted she noticed that her eyelids were puffy and swollen every morning, and nine weeks before coming in she awakened during the night, and when she got up fell on the floor in convulsions. During this attack she bit her tongue and passed urine involuntarily. Two weeks later she had a second attack, when she remained unconscious for thirty minutes; and this was followed two days later by several slight attacks in one day. She had photophobia. Double vision came on about the same time, and with it some hyperæsthesia of the scalp. Her speech became slow and difficult. She is a fairly well nourished and good-sized woman. She has a papular eruption on the back and shoulders. She has enjoyed good health until about four or five months ago.

The ophthalmologist found a condition of double optic neuritis, which indicates that the lesion is not only functional but has some organic basis. The tongue comes out perfectly naturally, there is no paralysis of the tongue. There is no evidence of any difference in the condition of the external muscles of the two sides of the face. The same is true of the arms and legs. There is no hemiplegia and no paraplegia. On the 11th of the month the urine was examined. Specific gravity was 1020; there was a trace of albumin, some blood corpuscles, no sugar and no casts. To-day the result of examination is much the same, but there are a few hyaline and granular casts. The temperature of this case has been down more than ought to be the case in a healthy person—down to 96 degrees in one instance. There has been no fever. The chart shows nothing definite and does not tell any story.

This rash is a little scaly; there are a few pustules, but it is more generally papular in character. It does not itch. It is the rash on the back to which I wish especially to call your attention.

There are two possible explanations for the condition of this woman. It might be due to kidney disease causing uræmia, and it might be that some damage to the brain is the result of a process beginning in the kidney. But it is more likely she is suffering from syphilitic disease. Now, I have no doubt you are told much about the syphilitic rash, and are led to believe that it is easily recognized. But I have never been able to do this easily. Even the rash of smallpox isn't always easy to distinguish, though there may be an epidemic in the neighborhood. Welch, at the Municipal Hospital, in an article about the epidemic which has lately been in Philadelphia, speaks of how difficult it is to recognize; and I should think I would be going too far if just from looking at this rash I should pronounce the case as syphilis. But there are other reasons. This is a young woman, and this kind of disease in the young is rare except when syphilitic. The diagnosis that there is some grave brain disease is easily reached. When we put beside that the result of examination of the eyes—the double optic neuritis—we know there must be a grave organic disease of the brain. I believe this woman has syphilitic disease of the brain.

One word in regard to prognosis. It is wonderful how such people will get better, even when it has gone so far as to show double optic neuritis. But it is my experience never to have seen a case which had gone on to this extent where the patient recovered and stayed well. Sometimes they get a good deal better and appear to get well, but my opinion is that they will never stay well.

The treatment upon which this woman was put was iodide of potassium. What gives the best results in this kind of case is iodide of potassium in increasing doses. We begin with ten grains three times a day, and increase that one grain each day. She had got up to taking twenty-five grains three times a day, making seventy-five grains in the twenty-four hours, when yesterday it was discovered that it disturbed her digestion. She is better now, has much less headache, and her speech is not so slow. When she came in her speech was what you could call staccato. When the iodide disturbs the digestion the best thing you can do is to stop it for a few days. Then I would begin again at ten grains and crawl up. It is evident that this is taking hold of her. It is not easy to explain to people how to give this in the right way. Yesterday I had a solution made containing one grain of iodide of potassium in ten minims of water, and giving 100 minims to-day, I would have it brought up to 110 minims to-morrow, etc. Have ten grains given three times to-day; to-morrow, one more grain at breakfast; the next day one more for breakfast and dinner also; and the third day one more grain—eleven grains at every meal—three times a day, and so on.

I always think we have no right to tell our patient in regard to our opinions. We should tell them facts, and not all the facts always. My grandfather used to say, "Never say cancer to a woman." I never tell a patient he has cancer. You can beat around the bush somehow. We shall not tell this woman our opinion in regard to her condition.

CIRRHOSIS OF THE LIVER.

This patient is thirty-two years of age. She was admitted to the hospital on November 7th. She had measles and whooping cough when a child, but has been a healthy woman. She has been married twice and had two children. Since childhood she has been quite a drinker, and she has taken whiskey to excess. For four months she has not been feeling well, and a short time ago took to her bed, with vomiting, a short, dry cough and pain in the right side. There was some fever at the time of admission, and she has had some ever since. The line on the chart is continuously above normal, and has not once touched normal. There is no great difference between the morning and evening temperature; it has no very regular rule and not the characters you usually see in acute inflammatory diseases. The pulse is natural, there is no stiffening of the radial arteries. The tongue is a little coated but not tremulous.

The eyes are jaundiced. After noticing them, then looking at the skin, you can be sure that it is a little icteroid. You notice it on the abdomen and chest. Often when you are in doubt as to the presence of jaundice you can tell by examining the urine, for it is almost always jaundiced. If the skin doesn't tell the story, nor the eyes, the urine will. Then in colored persons, where it is not so distinguishable, you can look under the tongue, and often the question is decided at once; it may be slightly yellow. The abdomen is decidedly full. There is no oedema of any part, but without doubt there is ascites. The amount of fluid has increased since she came here. You can feel perfectly distinctly the border of the liver extending down to the level of the umbilicus. The difficulty in getting the size of the liver by percussion is shown now by the fact that I get tympany here. Percussion anywhere except over the lungs—and sometimes over the lungs—is a very deceptive mode of examination. The rea-

son for the tympanitic note here is that the liver is far back in the abdominal cavity and a knuckle of intestine is pushed in front of it, or it may be that the tympanitic note is transmitted through the thin lower part of the liver.

In the lungs there are a few crackles at the base on the left side. When the urine was examined, soon after she came in, it was dark amber-colored; there was a trace of albumin, no sugar, no casts; there was bile pigment. Yesterday it was clear, and there is no note of any bile pigment.

Now, what are we dealing with here? The woman enjoyed good health till a few months ago; then she came to the hospital with the history and appearance I have given you. There is nothing definite except the enlargement of the liver and a little crackling at the base of the lung. She is a drinking woman. In England the people drink more generally than they do in this country. This woman is English, and instead of sticking to her beer she has, as you see, been taking stronger drinks. And she has cirrhosis of the liver. I used somehow to have the idea that in cirrhosis the liver was small and hard. Out of twenty cases of cirrhosis of the liver I don't think you'll find but one or two that are small. This woman's liver probably weighs six pounds. If you stop with that diagnosis and suppose the disease is something discrete, like a carbuncle on the neck, and the rest of the body is sound, you make a great mistake. Where fibrosis has gone so far the kidneys are involved, although the condition may reveal itself by no signs.

The prognosis is very bad; it can hardly be worse. This rarely gets entirely well again. The woman may get better and go out to work again, though I hardly think so. The dropsy is increasing.

When the woman first came in we gave her chloroform, morphia and compound tincture of cardamon. Then after a few days we gave her a dram of the phosphate of soda three times a day. We regulate the treatment according to whether there is diarrhoea or constipation. If there is diarrhoea we will not give phosphate of soda or calomel, but if there is constipation we give something that will relieve it. This woman seemed to get better, but she had some looseness of the bowels, and we stopped the phosphate and gave dilute muriatic acid.

A CASE OF BRAIN TUMOR.

The patient you now see is 16 years old. She is undersized for that age. She was admitted to the hospital August 2d, when her pulse and temperature were normal. The family history is good. There is rheumatism in the mother's family. As a child she was well, and of all the diseases common to childhood had but one, and that was measles. She left school in February, 1898. Her mother noticed at that time that she was listless and dull, and would sit quietly for a long time in a half unconscious state. At times she complained of a chilly sensation along her spine, which lasted a few minutes. In May the symptoms grew worse, and she had some trouble with her eyes, and there was difficulty in walking, her knees seeming weak. From October, 1898, to March, 1899, she underwent a course of treatment for tapeworm, and the treatment was successful.

Since last week some of the details of a previous ophthalmoscopic examination have been obtained, to which I attach great importance, as you will see. Here it says that in June she was listless and drowsy. In July her sight disappeared entirely, and has not since

returned. She has never menstruated. She is said to be subject to fits of excitement almost maniacal, which seem to be brought on by her constipated condition.

On her admission here or soon after—on the 4th—it was found by examination that she had light perception and light projection. The discs were very pale, and the retinal vessels contracted. The examination was made with difficulty on account of the constant motion of her eyes. Later the diagnosis of atrophy of the optic nerve was given.

Here was a case, then, with complete blindness and horizontal nystagmus—as nystagmus most frequently is. These two signs, associated with her other symptoms—mental torpor, a great deal of drowsiness, headache, weakness of the extremities—make us think of some brain trouble—of atrophy of the optic nerve. It makes us question whether this atrophy of the optic nerve is primary or preceded by a condition of choked disc. We cannot always tell by seeing atrophy of the nerve whether the condition is due to choked disc or not. Choked disc indicates some intracranial disease. You see, therefore, the importance of finding whether or not the atrophied nerve was primary. That this has been preceded by choked disc we have ascertained by correspondence with the dispensary where the child was taken in previously. Vision was 6/60 in both eyes. At that time she had a ravenous appetite, answered slowly, had severe headaches and vomiting. She was given specific treatment.

In 95 per cent. of tumors of the brain choked disc is found. Of course that is very different from saying that 95 per cent. of the cases of choked disc are due to brain tumor. But they are due to that more frequently than to anything else, and especially due to cerebellar tumor.

This nystagmus we presume was a late symptom—that is, that the child was not born with it. There is no defect in the structure of the girl's eye, and I have no doubt the nystagmus was developed as a symptom of the brain disease. Apart from disseminated sclerosis, nystagmus is perhaps most frequent in cases of brain tumor. Her other symptoms point to the same condition. We may exclude nephritis, as the urine is normal. We may also exclude internal hydrocephalus. The girl seems to have been quite bright when in school. I think the diagnosis of tumor of the brain is warranted.

We would not advise operative procedure in any case of brain tumor where there were no focal symptoms. There is here no impairment of speech, smell, taste or hearing, etc.

So far as the treatment is concerned it may be summed up in two words, namely, "Masterly inactivity." She has had iodide of potassium, of course, and mercurials. Beginning with small doses of potassium iodide, they were increased to ten grains three times a day. After a few weeks this was discontinued because she was nauseated, and the frontal headache seemed to grow worse instead of better. The girl has improved very decidedly since her stay in the hospital. She could not stand nor support herself when she was brought in on August 2d. On August 14 she sat up an hour and walked around her bed. In the last week her symptoms have become somewhat aggravated again.

I want to impress on you that everybody ought to learn how to use the ophthalmoscope. It should not be relegated to the ophthalmologist; it is a physician's instrument. At first it was largely used as a method of medical diagnosis for Bright's disease, disease of

the brain, etc. Once having learned to see the fundus of the retina you will never forget it.

This is a case of extraordinary interest, whether it responds to the iodide of potassium or the reverse. As to the treatment, there is no use in giving iodide of potassium unless the tumor is a gumma; yet that is all the treatment that is given.

CASE OF BELL'S PARALYSIS WITH AUDITORY NERVE INVOLVEMENT.

This man says that the night before his paralysis began he had had his hair cut and slept with the window open. The night was foggy—about the middle of June. With the paralysis there was a pain in his arm. He lost his hearing at the same time. In examining the man's head and face for the detection of the paralysis you simply have to remember the nerve supply of the head and face. There is no strabismus here; the excursion of the eyes is good in all directions. The second, third and fourth nerves we can dismiss. The fifth is the great sensory nerve to the head and face. Apparently sensation is preserved. There is movement of the masseter and temporal and pterygoid muscles. This man's face is twisted to the left while it is paralysed on the right. It may happen that a man's face when paralysed on the left is twisted to the left. In the early stages of paralysis the action of the opposite muscles will pull the face to that side. But there may be an occurrence of secondary spasms that will draw up the face on the paralysed side.

Dismissing all other nerves we come to the seventh. You notice when I tell him to look up the frontalis does not move. He cannot close the right eye; the orbicularis palpebrarum is paralysed. It is a seventh nerve palsy very clearly.

Sometime ago I made a series of experiments about the sensation of taste, and found it very much as given in the text books, except that I found none on the lips. It is generally said that the tip of the tongue is supplied by the chorda tympani nerve. The real tip of the tongue is not supplied by the chorda tympani, there is a little wedged-shaped area on either side of the median line that is supplied by the glossopharyngeal. With the exception of this the anterior part of the tongue is supplied by the chorda tympani. I believe this man's taste is lost on the right side and blunted on the left.

In a case of Bell's palsy you ought not only to be able to say it is Bell's palsy, but to state where the lesion is and of what character it is, both as a factor in prognosis and in treatment. He has paralysis of all the branches of the nerve, but more than this he is deaf and has loss of taste. In ordinary facial paralysis you do not have the nerve of hearing involved, being a neuritis or perineuritis from cold. If the auditory nerve is involved the lesion must be so far back as the internal auditory meatus.

The prognosis of facial paralysis in general is good. When there is no involvement of the auditory nerve you treat with blisters, iodide of potassium and salicylates at the first part, and then at the end of two or three weeks you may use the battery, and the patient will probably get well if you don't push the treatment too far. If the auditory nerve is involved the case is probably syphilitic. A gummatous meningitis at the origin of these nerves would give just these symptoms. The treatment would be the same that I have mentioned, but then we would push the use of mercury and iodide at first, and the patient would probably get well.

MISCELLANY.

—Since pigs were introduced into the New Hebrides the natives, it is said, have come to regard human flesh as second best.

—Dr. J. H. Girdner, of this city, owns a dress coat made for the wedding of his grandfather by President Andrew Johnson, who was at that time a tailor.

—The Argentine Republic has erected a sanitarium at Cordova exclusively for the treatment of persons afflicted with tuberculosis. The institution will be under the sole direction of the state.

—The oldest practitioner of medicine in the United States is claimed to be Dr. John P. Wood, of Coffeyville, Kan. He is in his ninety-ninth year, and still devotes a large part of each day to his profession.

—John Contee Fairfax, M.D., the only American physician who ever bore a British title of nobility, died recently at his home in Virginia. He was the eleventh Baron Fairfax of Cameron, in the peerage of Scotland.

—At a centenary celebration of the Royal College of Surgeons, which was held in London on July 26, Drs. W. W. Keen, of Philadelphia, and R. F. Weir, of New York, were given diplomas of honorary fellowship in the college.

—Phototherapy, or treatment of lupus and other skin diseases by the chemical rays of sunlight or the electric arc, is now given a special department at the London Hospital. Expensive apparatus has been presented by the Princess of Wales, and nurses have been specially trained.

—Dr. Rudolf Amandus Philippi, of Santiago de Chile, is about to celebrate the seventieth anniversary of receiving his doctor's degree from Berlin University. Dr. Philippi is professor of botany in the Santiago University and director of the Natural History Museum. He is 92 years of age, and attended Alexander von Humboldt's lectures when a student.

—Experiments are to be made in Hawaii with a new leprosy cure, which is said to have accomplished remarkable results. It is the product of a Venezuelan shrub, the culture of which has been introduced in the islands under the care of Dr. Carmichael, of the U. S. Marine Hospital, who has been directed by the department at Washington to make experiments with it.

—Dr. A. Philip writes to the *Lancet* of May 26, referring to a mode of quenching thirst by keeping a small round pebble in the mouth. Thirst disappears and respiration is diminished. Dr. Philip states that he has gone as long as eight hours and a half in a broiling sun with nothing but dry biscuits and cheese for a lunch, and at the end of that time was not particularly thirsty.

—In cases of sunstroke, whatever the symptoms, Dr. H. Gras claims to have obtained wonderful results from the employment of nitroglycerine. He advises 20 drops of a 1-1000 solution of the drug in 10 ounces of distilled water; a teaspoonful every quarter of an hour until the symptoms disappear completely, at the same time lengthening the intervals as the condition is gradually ameliorated.

—Some Christian Scientists in New York asked to

be allowed to treat "Old Tom," a sick and wicked elephant in the Central Park zoo, says the *Medical Age*. When told that "Old Tom" would give them massage if they should enter his cage, the scientists replied, with great presence of mind, that they would give "Old Tom" absent treatment. They must have done so, for the elephant is better.

—The woman who possesses the longest head of hair in the world is said to be Mercedes Lopez, a Mexican. Her height is five feet, and when she stands erect her hair trails on the ground four feet eight inches. The hair is so thick that she can completely hide herself in it. She has it cut very frequently, as it grows so quickly, enabling her to sell large tresses to hair dealers every month. She is the wife of a poor sheep herder.

—The mosquito in the light of modern investigation has become a creature of importance, says the *Medical Fortnightly*. As the purveyor of malarial parasites he is "the whole thing." In a recent number of the *British Medical Journal* directions are given for mounting and preserving mosquitos, which the State of New Jersey will do well to have printed and distributed freely among the mosquito farmers of that afflicted commonwealth.

—In Washington, D.C., the following method of dealing with the "dispensary evil" has now been employed for four years, and the medical profession there are unanimous in praising it: When a patient applies to a hospital or dispensary he is treated and no questions are asked. He is then given a card, which he presents to the Bureau of Charities for investigation, and no further treatment is given unless that body reports that the applicant is worthy.

—G. H. Savage sums up the relation of anesthetics to insanity in the following words: "An anesthetic may cause insanity; it may relieve for a time a few maniacal cases; it may be given to the insane with impunity as a rule, when examinations or operations are necessary. There is danger that it may lead to a fresh attack of insanity if given to patients who have had previous attacks and to those who are subject to recurrent insanity of any form."

—There is something inexpressibly touching, says the *Alkaloidal Clinic*, in such incidents as the death of Dr. Fravel, of Westville, Ind., and his wife. The doctor had been weakly but not ill, had made a professional call, and was lying on a couch talking with his wife when he became unconscious. His wife gave the alarm, and when neighbors arrived she knelt by his side, asked if he had left her, and died within a minute of the time he drew his last breath.

—A remarkable discovery has been made by Dr. Peters, who has recently been excavating at Nippur, an ancient city of Babylonia. While the workmen were clearing away the debris from the walls of the temple of Bel they discovered in a hole which had been closed up with sundried bricks a large goose egg on a mat of reeds. Why the egg was placed there is a mystery, as it has no connection with any Babylonian custom. Dr. Peters thinks that it may be looked upon as a joke on the part of one or more of the ancient workmen, the object of which will probably never be known. The temple was built at a very remote time, probably in the reign of Akur-Gal, B. C. 2200, or even earlier, so that the egg is over 4,000 years old.

ORIGINAL ARTICLES.

THE EARLY RECOGNITION, AND TREATMENT OF
INTESTINAL OBSTRUCTION, FOLLOWING
ABDOMINAL OPERATIONS.*

BY HOMER I. OSTROM, M.D.

Surgeon to the Metropolitan Hospital, Etc.,
New York.

THE intimate relation existing between the functional activity of the intestinal canal, and the success of abdominal operations, does not form a part of the present discussion, but its importance as a factor in abdominal surgery cannot be too frequently insisted upon, and anything that contributes to our better management of the intestines, before, during, and after an abdominal operation, with a view to the continuance of their function, will be of inestimable service to the surgeon, and very materially contribute to the success of the operation.

Granting that it is of the utmost importance to maintain the functional activity of the intestines after opening the abdomen, and I will say that the operation cannot be successful if this is not preserved, if we have not been able to insure action of the bowels by pre-operative treatment, it becomes necessary for us to be able to recognize the earliest symptoms of an arrest of function of the intestines, and without delay, apply the most efficient remedy for its restoration.

Following a laparotomy, there is always a period during which the abdominal organs rest. This period we should respect, and hold our hand from interfering with the suggestion which nature makes for our guidance. But this period is easily prolonged, and almost before we are aware, becomes one attended with the greatest danger to life. Moreover, it is a condition of the intestines, the treatment of which, admits of no delay, for it grows rapidly worse if not relieved. We cannot wait until intestinal obstruction has actually taken place, for our success in the treatment will depend upon recognizing the early symptoms, and thus preventing the lethal condition that must follow, if these are not removed.

We, therefore, have to inquire, what are the earliest symptoms by which we can diagnose intestinal obstruction? What are the conditions indicating that physiological rest is being prolonged, and is passing over to a pathological state?

Probably no one symptom will do this, neither can we rely with certainty upon any group of symptoms. Here, almost more than in any other department of surgery, individual experience will come to our assistance. Still, certain symptoms and conditions will always stand out as landmarks, and those that are common to all cases will be of value in making up the diagnostic picture.

Among the most constant symptoms of beginning intestinal obstruction, and the one upon which I have learned to place the most reliance, in the absence of all other signs, is, persistent pain in the epigastric region. The pain is very similar to that felt in the early stages of appendicitis, and probably has a like origin. This clinical fact, and its explanation, is strengthened by the usual situation of intestinal obstruction following abdominal operations. I have found the obstruc-

tion to be more frequent in the region of the cæcum than elsewhere, unless due to some local manipulation, or repair of the intestine. The small gut in this situation, near its opening into the large intestine, has, in my experience, been the most frequent seat of operative obstruction, and upon opening the abdomen my first search is in that region.

The location of the pain, its character, and the time of its development, are of great significance, and together form a strong diagnostic trio. Pain situated in the lower abdomen, the pelvis, where most of the manipulation has been carried on, is felt in varying degree after recovering from the anæsthetic, and may continue, requiring morphine for its relief. This is due to traumatism, and has no other meaning than a disturbance of the nerve centers, and physiological repair. The case is different, however, with persistent paroxysms of pain in the epigastrium, coming on from twelve to twenty-four, or even thirty-six hours, after the operation. The cases in which this occurs, and in which it is strongly diagnostic of obstruction, are those that up to that time have done exceptionally well. The ether nausea is slight, or entirely absent; the patient is so comfortable that she cannot realize an operation has been done; but the tongue is dry, and red, more so than we would expect to find with so little apparent stomachic disturbance, and the hyperesthesia of the entire nervous system is out of proportion to the gross appearance of the patient. The patient is doing too well, for the degree of injury done, the nervous centers have been shocked, and all functional activity is arrested. The patient is, if I may be allowed the expression, living without her abdominal organs. Reaction must come, and this is in the form of irregular peristalsis of the intestine. Hence the pain. If to the epigastric pain, developing after twenty-four hours of freedom from pain, there is added abdominal distention, without ability to pass intestinal gas, the diagnosis admits of no doubt. But when this stage is reached we have a condition almost beyond help, and if we would save our patients, we must be able to diagnose the condition *before* complete obstruction has developed.

In connection with the usually considered positive symptoms of intestinal obstruction, inability to pass gas, or to obtain the passage of fecal matter, I do not consider these essential to the diagnosis of the early stages of intestinal obstruction. I have seen cases of undoubted intestinal obstruction, in which gas was passed, and fecal movements obtained by the use of enemas. Such instances receive an explanation in the situation of the obstruction, but are none the less deceptive, and while the absence of these evidences of intestinal activity may be looked upon as corroborative of obstruction, their presence must not weigh against other evidences that obstruction exists. The same is true of nausea and vomiting. They are not likely to recur after the ether disturbance has been controlled, unless caused by some intestinal involvement; but while these symptoms may confirm the diagnosis, their absence does not of necessity exclude obstruction.

Setting aside the temperament of the patient, which, of course, will aid in making up the diagnostic picture, as well as influencing our prognosis of the case, the behavior of the case for the post-operative twenty-four hours will frequently serve as an index of its future course. The perfectly quiet patients, those who have no pain, no nausea, no thirst, who feel perfectly well upon recovering from the anæsthesia, suggest to

* Presented to the Medical Congress, Paris, France, July, 1900.

me a more than usual degree of watchfulness. I look for complications, later. I would rather have the patient nauseated, and vomit; I would rather have them clear the stomach of whatever may remain in it; I would rather have them use the abdominal muscles a little, and with that use favor the movements of the intestines.

I believe the fear that I, with other abdominal surgeons entertained, of having a patient who had had a laparotomy move, or be moved, for some time following the operation, to be groundless. Unless there is danger from hemorrhage, or heart failure, what possible harm can follow a change of position? I allow my patients to assume any position they desire, and I instruct my nurses to encourage the patients to help themselves as early as possible. Any movement of the body, and especially of the abdominal muscles, assists in restoring the action of the intestines. With the same object in view, I caution my nurses against drawing the abdominal binder too tight. The only object of the binder is to keep the dressing in place. Any pressure more than this is to be avoided, for it directly favors intestinal inactivity, prevents the gas from moving, and materially interferes with the circulation of the abdomen, vascular and lymphatic.

To recapitulate. Paroxysmal epigastric pain, coming on after twenty-four, or thirty-six hours of quiet, accompanied with a dry, red tongue and increasing general nervous erethism, indicate to me the initial stages of intestinal obstruction. Marked variations of pulse and temperature are not essential features in the diagnosis. Neither are the ability to pass flatus, or to induce fecal movements incompatible with such a suspicion. Of course, if these conditions exist, the diagnosis is confirmed. But as I have pointed out before, it is our desire to recognize the developing intestinal involvement, rather than the fully developed state. Nausea and vomiting, with tympanitis, increasing and irregular pulse, mark an almost hopeless stage of obstruction; our success, therefore, lies in anticipating this group of symptoms.

There is a form of intestinal obstruction, the initial symptoms of which present quite the reverse picture to that which I have painted. This is marked by complete atony. There is no pain. The intestines show no symptoms of activity. There is no movement of gas, and with this there is a gradual abdominal distention and, later, regurgitate vomiting. These cases probably have their origin in primary shock to the sympathetic system of nerves, and the paralysis affects the entire intestinal canal. Peritonitis does not as frequently accompany this variety of obstruction as it does the first variety mentioned, but it is more likely to develop from general septic peritonitis, than is the more active form of intestinal obstruction.

Inasmuch as any abdominal operation, even the least complicated, is liable to be followed by intestinal obstruction, it behooves us, if possible, to prevent such a catastrophe. Increasing experience gives me confidence that this can in great measure be done by attention to the intestines; before, during and after the operation. Before the operation, I am most particular in my attention to cleansing the bowels. This includes, not only removing all fecal matter, but rendering the canal aseptic and free from fermentive germs. Cathartics, enemata, and, preferably, Duotal (Guaiacol Carbonate), meet these indications. Where I have reason to suspect intestinal complications, I do not hesitate to give Pulvis. Glyc. Comp. two hours

before the anæsthetic is administered. Usually this will insure a free movement of the bowels within a few hours after the operation. If this has not been necessary, and as a routine practice, as soon after the operation as the patient is able to take anything on the stomach, and this will be within an hour or two after recovering from the anæsthetic, I order Magnesia Cit.-Effer. in two drachm doses every hour until the full sixteen ounces have been taken. By the following morning I expect the bowels to move. If they do not, enemata may be necessary. Some cases require Magnesia Sulph., and it is a matter of astonishment how well this salt is borne by the stomach at a time when everything else is rejected. I give it in drachm doses of a saturated solution until one ounce of the crystals have been administered. This usually insures free catharsis. But under no circumstances do I cease my efforts until I have obtained satisfactory evacuations from the bowels. Nor am I content with this. For several days I see that the intestinal canal is kept active.

The use of Morphine after abdominal operations is closely related, at least in the popular mind, to intestinal activity. I am in the habit of using Morphine whenever I think my patients are suffering from the effects of pain. I have never had ill effects from Morphine administered under such circumstances, and I have learned to regard this drug as one of the most important in the after treatment of abdominal operations. In the first place I select my cases, and give the minimum dose. After an anæsthetic, one-half the usual dose of Morphine will produce the same effect that the full dose will produce under other circumstances. After the shock of a laparotomy, I consider it essential for the patient to have sleep. If necessary to produce this, I do so by giving a hypodermic of Morphine, $\frac{1}{4}$ th grain, repeating in one hour, if necessary. The first dose is, however, usually sufficient to insure quiet, if not sleep.

In the severe epigastric pains, which to me indicate the beginning of intestinal obstruction, I do not hesitate to use Morphine in small doses. Nothing with which I am familiar assists me more in overcoming the excessive peristalsis, which is the cause of pain, and in itself prevents the opening of the canal. At this stage we find a spasm of the intestinal muscles, and a consequent too violent pressure against the seat of obstruction. This in turn, to protect itself, contracts more firmly, and the condition is accentuated. Here the use of Morphine calls for the most care and judgment, but so used, I regard it as a valuable adjunct to the treatment of abdominal cases.

The operative treatment of intestinal obstruction opens a wide field for discussion. In the early stages, before complete obstruction has developed, the prognosis for operative interference is good; but later, when the obstruction is complete and the system is toxic from the retained effete materials that should be eliminated by the intestines, the cases are almost hopeless. Of course, the cases which have their origin in septic infection, present that additional grave complication at the outset, and still I question whether we have the right to refuse operation in any case of intestinal obstruction that is not actually beyond help. The chance is small, but should not we give it to the otherwise doomed patient?

Possibly one reason of the high mortality following operations for intestinal obstruction is that we attempt to do too much. We seek to make a surgically complete operation, and in doing so spend much time

in separating adhesions to find the seat of obstruction. In view of the desperate condition the patient is in at the time of the operation, I believe thus prolonging the operation to be a mistake. Our object is to relieve the over-charged intestine, and that as quickly as possible. To reach the seat of obstruction frequently requires considerable manipulation, if not the removal of a considerable portion of the bowel. This requires time and a degree of shock that the already over-taxed system cannot endure. Our first object should be to save life, and if an incomplete operation will do this better than a complete one, we should give our preference to the former.

Before we can accomplish much, we must empty the intestine, for the pressure of gas and fluid increases the very trouble which we seek to remove. Therefore, I think it better in the majority of instances of intestinal obstruction, to spend little time in seeking the seat of obstruction, but to proceed without delay to the formation of an artificial anus. It matters little the part of the intestine opened, and inasmuch as the operation is but a temporary expedient, the manipulation can be completed through the median incision. Neither is a spur necessary, for it would interfere with the subsequent closing of the gut.

Once the intestine is opened, and its contents discharged, thus relieving pressure and restoring pelvic and abdominal circulation, the immediate and alarming symptoms subside, and the patient has been given the one remaining chance for life. Subsequently the abdomen can be opened and the obstruction removed under much more favorable conditions than existed at the primary operation.

The shock of the primary operation is very slight, indeed, in one instance I performed it under local anesthesia. It should, to be successful, consume but a few minutes, and I am convinced that we are remiss in our duty to our patients if we fail to give them this one remaining opportunity for life.

42 West Forty-eighth Street.

THE VALUE OF ANTISEPTIC NEBULÆ IN PULMONARY TUBERCULOSIS

BY HOMER M. THOMAS, A.M., M.D., CHICAGO, ILL.

NO fact in medicine is better established than that spontaneous recovery from pulmonary tuberculosis often takes place. It has been said, the cure of tuberculosis is possible for nature; it is not so for medicine. A review of the methods of cure for tuberculosis brought forward since my advent into the profession, in 1882, recalls many. Memory is still vividly awakened over the professional welcome accorded to the treatment by Dr. De Clat's Phenic Acid. A most enthusiastic meeting of this society, at the Grand Pacific Hotel, some years since, heard with breathless interest the extravagant praise accorded the treatment of Bergeon's gaseous enemata. Later on I visited Detroit, Mich., and, as the guest of Dr. E. L. Shurly, was afforded abundant opportunities for information concerning the curative properties of the iodine and gold treatment, as developed through the scientific researches of Shurly and Gibbs. The anti-tubercular serum has been, and is still considered by many professional observers, of undoubted value. Strenuous champions for the use of guaiacol carbonate of creosote, compound hypophosphites and the venerable cod-liver oil emulsion are still among us.

Since 1892, I have been more or less professionally active in exploiting what I consider to be the virtues of antiseptic nebulæ. The latest aspirant for professional prestige is the intrapleural injection of nitrogen gas as suggested by my distinguished friend, Dr. Murphy. A large number of cases of pulmonary tuberculosis are reported as greatly benefited or entirely cured by each of the foregoing methods of treatment. The professional men under whose care these cases have been are of high professional reputation and noted for their deep scientific researches. Hence, the query must arise in each thoughtful mind, is there in any of these efforts at cure a direct therapeutic relation between disease and remedy? Have we not coincidence of improvement rather than a necessarily related cause for it? A candid consideration of all the foregoing methods of treatment emphasizes my belief that they are merely collateral agencies; that the fundamental processes of cure are established by nature, not by the physician. I do not assume that all the research of the past has been futile, nor that the door is closed forever to therapeutic achievement. All scientific struggle is valuable, if only to emphasize the futility of further work in any given direction. Coming to a consideration of the title of this paper, the history of my researches began in 1892. I was confident that antiseptic nebulæ of sufficient fineness of subdivision, and not too irritating, would penetrate all portions of the respiratory tract to which there was access of air. The earlier papers before this society were devoted to a review of animal experimentation. These, in brief, progressively demonstrated the presence of antiseptic nebulæ from the nasal passages down to the throat, trachea and larger bronchial tubes. Additional animal experimentation microscopically showed the presence of oil globules into the pulmonary alveoli. Finally, a human experiment on a male patient at the Cook County Hospital, dying from pernicious anemia, conclusively showed the presence of oil globules in the pulmonary alveoli of the human lung. The scientific proof, through the exhibition of microscopic slides, of the foregoing statements I will be pleased to make at any time to those who are interested in this subject. Previous to the beginning of this work of experimentation all text-books on the subject stated that antiseptic nebulæ, as a rule, only penetrated to the larger bronchial tubes, and in the rarest of instances to the finer tubes. It was deemed impossible for them to reach the pulmonary alveoli. In the treatment of pulmonary tuberculosis by antiseptic nebulæ, what are the pathological conditions which confront us? We have lowered vital resistance in the lung elements; development of tubercle bacilli in these tissues; hyperplasia of the fixed cells; formation of epithelioid cells; development of knot-like foci where the tubercle bacilli multiply; giant-cell formation in which there is no new capillary formation; inflammation, degeneration of the blood vessels, lymphatics and air-passages of these areas, leucocytosis, mixed and secondary infection. The process and method of invasion and incapsulation up to this point are complete and thorough. No avenues for reaching these areas are left open; the air is shut out; the lymphatics are closed; no blood enters, and no new capillaries are formed. The vital resistance is constantly being lowered and new invasions are taking place. These foci cannot be reached by any known processes of osmosis or dialysis. In addition to this we find in a tubercle bacillus a germ of great strength of resistance. Its growth is slow and it has a horny outer capsule containing spores protected by a spore membrane. Then the germ soon surrounds itself with an area of coagulative

necrosis or inflammatory products. It is evident that any nebulae which would penetrate the inflamed area, then the coagulative necrosis and the resisting outer capsule would destroy the tissues in which the bacilli are found. These pathological conditions at once establish a definite limitation for the action of antiseptic nebulae. For the areas where the disease is most active are inaccessible. But while we as yet have no therapeutic resources in dealing with these foci of infection, they are not left to carry on their work of destruction without resistance. Nature walls off these foci of infection with strong connective tissue barriers. The foci are shut off from further invasion and their powers for destructive metamorphosis are limited and localized.

The limitations for the use of antiseptic nebulae in pulmonary tuberculosis, being thus clearly defined, what is their scope? Since pulmonary tuberculosis is a slow death, usually produced by defective ventilation of the lungs, the province of this treatment is through antiseptics to keep open and unaffected the areas contiguous to the diseased foci. There exists a species of autoinfection due to rebreathing infected air. The result is a susceptibility to additional infection by the bacilliary germ. Given perfect pulmonary ventilation with no breathing of impoverished air, and you have gone a long way toward curing the disease. Since it is proven that antiseptic nebulae reach all the minute ramifications of the respiratory passages, except areas of consolidation, we aim at supersaturation of these areas with antiseptic nebulae. The essentials of the modern treatment of tuberculosis are plenty of fresh air, light, good food and judicious medical supervision. And since consumption can be successfully treated in nearly all climates, the probability of favorable result of treatment at the home of the patient is quite reassuring.

It is a self-evident proposition that the more perfectly developed the lung and the more mobile the thoracic cage the less tendency is there to pulmonary tuberculosis. Nothing is more certain than that small, ill-developed lungs are prone to tuberculosis. It, therefore, follows that any system of pulmonary gymnastics which encourages full, deep, respiratory inspiration and expiration is of great value. Not only do good pulmonary development and free thoracic mobility tend to prevent pulmonary tuberculosis, but they place the individual at an advantage should he happen to develop it, both on account of the large margin of reserve that goes with them. It is because of the smallness of pulmonary reserve in those with ill-developed lungs that they are so liable to succumb to an attack by acute pulmonary tuberculosis, and it is very largely for this same reason that the danger from it increases with it every years after middle life, the reserve diminishing as thoracic rigidity advances. Respiratory exercises are more suitable for developing the lungs than gymnastics, for with them we are able to develop the lungs without danger of producing emphysema. Respiratory exercises are very useful in favoring the expansion of collapsed lung after pleural effusion. Hence, it is that in all cases of pulmonary tuberculosis I advocate the employment of antiseptic nebulae; for the more abundantly the lungs are flushed with the blood, the more capable are they for resisting the bacillus. Even were antiseptic nebulae without the slightest therapeutic value in themselves, I would still advocate their employment in pulmonary tuberculosis. The psychical stimulus to patients is sufficient to encourage pulmonary ventilation in itself. The average difference between maximum and minimum thoracic mobility in the male is about two inches. There are records, however, of a man known to have chest expansion of six inches, but this is

very exceptional. At Barnum's show in London, two years back, was a man possessed of extraordinary chest mobility. By forcibly expanding his thorax he was able to snap a strong belt fastened around the chest when in the position of full inspiration. It should, however, be remembered that those who have large and powerful thoracic muscles can effect a considerable increase by causing their muscles to expand. Sandow, for instance, claims to be able to increase his chest circumference from 48 to 62 inches, or, to the extent of 14 inches. There is little doubt that this increase is almost wholly caused by the swelling of the great muscles enveloping the chest. It is likely that the increase in his bony chest is not over three inches, since his vital capacity is only 275 cubic inches. The benefits, therefore, of the respiratory expansion that antiseptic nebulae produce is in proportion as they create pulmonary ventilation, rather than muscular development of the thoracic cage.

Dr. William Murrell (*Brit. Med. Jour.*, No. 1,897, p. 202) has made experiments, partly bacteriological and partly clinical, to determine the effect of certain essential oils on the bacilli of tuberculosis when inhaled. They occupied a period of about two years. As there are many essential oils, two—the oil of cinnamon and the oil of peppermint—were selected as typical of the group. Care was taken to obtain pure and reliable specimens.

The clinical observations were carried out on twenty patients suffering from phthisis, none of whom were confined to bed. Some were in the early stage and some had cavities in either or both lungs. In some cases the patients inhaled once or twice a day air impregnated with either oil of cinnamon or oil of peppermint; in other cases the patient received a sufficient supply, and was ordered to inhale it almost constantly night and day. A "bib" was devised on which the oil was sprinkled, and this was suspended from the neck, so that the air inhaled was constantly impregnated by the vapor.

After a trial extending over six months, the results were so uniformly unfavorable that this treatment in all the cases had to be abandoned and other treatment resorted to.

The bacteriological experiments conducted by Blaxall, at the Westminster Medical School, and described minutely by the author, proved the absolute inefficacy of the essential oils for retardation or inhibition of the growth of the tubercle bacillus.

After the essential oils were proved useless, experiments were made in other directions, and after many failures formaldehyde or formic aldehyde was adopted. A 40 per cent. aqueous solution was used, and it was found that the majority of the patients could stand a 1 to 16 spray of the solution without inconvenience.

Bacteriological investigations were made with a 6 per cent. solution, and the results proved most satisfactory in its action on the tubercle bacillus. The experiments are given in detail by the author. They showed that even a weak solution (6 per cent.) of formaldehyde exerts a very marked retarding and inhibitive influence on the growth and future development of the bacilli. No attempt was made to estimate the amount of the volatile vapor in any given quantity of the circulating air in any given time.

The clinical results of the formaldehyde treatment were quite in accord with the results of the bacteriological observations. A 6 per cent. solution was usually employed, but this was varied to meet the idiosyncrasy of the patient. In most cases the drug was inhaled once or twice a day, compressed air, by a simple mechanical arrangement, being made to bubble through the solution.

This gave the best results. In other cases the "bib" method was employed.

In many cases the drug caused irritation at the back of the throat, and sometimes induced violent paroxysms of cough.

Twenty cases of pulmonary tuberculosis were treated with formaldehyde, but in six the results were inconclusive, either because the patient was lost sight of or because other methods were resorted to in addition.

In the remaining fourteen cases nothing but the formaldehyde was administered, with the exception of an occasional pill of $\frac{1}{4}$ grn. of picROTOXIN to check the night-sweating. Of these fourteen cases, twelve were much benefited, while two only slightly improved. These two were men, both of whom presented the physical signs of cavities or of extensive breaking down on both sides. Of the twelve successful cases, five were men and seven were women.

Of the five men, three had cavities at both apices, and the other two had marked signs of consolidation at the left apex. Of the seven women, three had breaking down of both lungs, and four had consolidation of one lung only. One man and one woman had, in addition to the lung symptoms, tuberculous ulceration of the larynx.

Some of these patients had previously had inhalations of oil of cinnamon or oil of peppermint without benefit. Four typical cases are given in brief outline, in each one of which the patients were greatly improved by the formaldehyde treatment.

The author believes that the best way to treat pulmonary tuberculosis is to obtain the bacilli from the expectoration, cultivate them, pass them over various volatile substances until one is found which will arrest their growth, and then administer it by inhalation to the patient.

He by no means precludes the use of fatty food and other substances, such as cod-liver oil.

Our own Dr. Peck has given us valuable data as to the antiseptic value of essential oils, and the following are his conclusions with reference to the various agents, as antiseptics in dentistry:

Oil of Cassia, effective as an antiseptic in	1 to 2233 parts;
Oil of Ceylon Cinnamon, " " "	1 to 2100 "
Synthetic Oil of Cinnamon, " " "	1 to 2133 "
Beachwood Creasote, " " "	1 to 1280 "
Oil of Cloves, " " "	1 to 1150 "
Oil of Bay, " " "	1 to 1028 "
Oil of Sassafras, " " "	1 to 1000 "
Oil of Peppermint, " " "	1 to 875 "
Carbolic Acid 95 percent., " " "	1 to 338 "
Myrtol, " " "	1 to 357 "
Oil of Cajuput, " " "	1 to 120 "
Eucalyptol, " " "	1 to 116 "
Formaldehyde, " " "	1 to 400 "

The foregoing represent the experiments in dentistry only. I am not familiar with any experimental work on the antiseptic properties of nebulæ in the respiratory tract; that is, the relative antiseptic value of each of the foregoing when inhaled. An inquiry on this line is pertinent to the thorough consideration of our subject, but I have not had the time to go into the subject exhaustively. I shall try and make these experiments in the future, and report the conclusions to this society.

We now pass to a consideration of the history of cases of pulmonary tuberculosis treated by antiseptic nebulæ at the Dunning Consumptive Hospital.

On October 8, 1897, before the meeting of the Mississippi Valley Medical Association, in Louisville, Ky., Dr. George W. Johnson, late medical superintendent of the Cook County Infirmary, reported four cases as greatly improved under the antiseptic nebulæ. The compressed air apparatus for producing nebulæ at that time was

very imperfect and limited in its action. Since then the new consumptive hospital has been completely equipped with an elaborate system of sterilized compressed air, distributed throughout a number of the wards. This complete mechanical arrangement permits of a very comprehensive and thorough trial of the virtues of antiseptic nebulæ in pulmonary tuberculosis. On August 14, 1900, Dr. G. M. Wood, attending physician of the consumptive hospital, wrote me: "I send you herewith a statement of weights of patients in your ward. Lenter is probably not tubercular and Ross is doubtful. The rest are good typical cases of phthisis. The showing is certainly good. It is encouraging. From February to February six out of nine have gained in weight, and they are all in good, comfortable condition."

In conclusion, the following benefits seem to me established as a reason for the general use of antiseptic nebulæ in the treatment of pulmonary tuberculosis:

1. The respiratory capacity, so limited in tubercular patients, is increased.
2. The catarrhal condition of the air-passages is diminished, thereby aiding a better introduction of air into the lungs.
3. The pulmonary passages are kept in an aseptic condition and the danger of new bacillary invasion minimized.
4. The marked relief of cough and dyspnoea.
5. The alimentary tract is undisturbed by drugs, giving ample opportunity for the increase of vital resistance by suitable diet and constitutional treatment.
6. The treatment of pulmonary tuberculosis by the inhalation of antiseptic nebulæ is rational and practicable.

We now await the skill of a therapist to provide us with a specific for the tubercle bacillus. When this is done, the dread malady of tuberculosis will no longer be credited with one-seventh of our mortality. That a number of cases have been relieved of their most distressing symptoms, together with marked physical improvement, inspires a new hope for a more extended use of this method of treatment. I believe the chances of successful coping with pulmonary phthisis are greatly enhanced by the general adoption of the inhalation method. We are strong in mechanism, weak in therapeutic resources.

THE TREATMENT OF BRONCHO-PNEUMONIA.

BY WILLIAM FITCH CHENEY, M.D., OF SAN FRANCISCO, CAL.

REGARDING the treatment of broncho-pneumonia, Osler says: "The frequency and the seriousness of broncho-pneumonia renders it a disease which taxes to the utmost the resources of the practitioner. There is no acute pulmonary affection over which he at times so greatly despairs. On the other hand, there is not one in which he will be more gratified in saving cases which have seemed past all succor."

By broncho-pneumonia I mean that disease which the older books called capillary bronchitis, and which more recent authorities have named catarrhal pneumonia and lobular pneumonia. It is a sneaking, cowardly disease, for it attacks by preference the weak and the debilitated—the infant, whose life is just beginning, and the aged, whose life is drawing to its close. It chooses, too, the infant that is already under-average, suffering from malnutrition, chronic diarrhea, rickets, or some of the acute infections, like measles, whoop-

ing cough, or diphtheria; or the old person already afflicted with some chronic process exhausting his vitality, like interstitial nephritis, diabetes, or carcinoma. At whatever time in life it comes, lowered resisting power prepares its way and constitutes its most formidable ally. This point, at the onset, challenges both our attention and our sympathy.

Broncho-pneumonia is a disease due to infection, but not by any special germ. The micro-organisms at work are different in different cases, and several different forms are commonly present in the same case. In other words, mixed infection is the rule in broncho-pneumonia. Furthermore, the infection attacks the bronchial mucous membrane primarily, and extends to the air sacs only secondarily. The disease is thus a capillary bronchitis by its origin, and a pneumonia only by its development and its effects. Again, while the exudate formed on the bronchial mucous membrane does not contain enough fibrin to make it coagulable, as in lobar pneumonia, it yet contains enough to make it extremely sticky, so that it tends to block the finer tubes. The consequence of this blocking is the collapse of air-sacs, because they can no longer be inflated; and this collapse of pulmonary tissue is frequently progressive and widespread. The important characteristics of broncho-pneumonia, that make it so formidable an enemy, are, therefore, these: (1) The regularity with which depression of vitality precedes and accompanies the disease; (2) the presence of an abundance of micro-organisms on the bronchial mucous membrane, whose toxins are constantly being absorbed into the blood; (3) the formation in the tubes of a viscid secretion that causes extensive obstruction to the entrance of air.

The dangers to life that the disease presents depend directly on the conditions just enumerated. These dangers are, *first*, mechanical, from obstruction; and, *second*, toxic, from infection. Probably the greatest menace to life is that of diminished air space from occluded tubes and collapsed sacs in the lungs, leading to deficient oxidation of the blood and threatening death from asphyxiation. Another menace offered by this mechanical obstruction in the lungs is gradual dilation of the right ventricle, that goes on little by little as the obstacle to the pulmonary circulation becomes greater and greater. Still a third menace to life is that of toxemia. It is difficult to calculate just how far the toxins in the blood are responsible for the prostration that forms so prominent a feature of the disease. We cannot doubt, however, that they play an important part in the production of exhaustion. They act especially as depressants to the respiratory and cardiac centers, they irritate the kidney epithelium which attempts to eliminate them, and they cause debilitating sweats, by which the skin likewise attempts to throw them out of the circulation.

Whether we look at the disease from the standpoint of pulmonary obstruction or from that of toxemia, our first duty in treating broncho-pneumonia is stimulation of the patient. This must be the prime object constantly kept in view. The disease makes its onset because of the patient's weakness, it thrives on his depression, and it spreads and grows in direct proportion to his exhaustion. The more stimulation we can furnish the patient, therefore, the more opposition we offer to the progress of the disease and the more we enable him to throw it off. Every therapeutic measure employed in this affection must first be weighed most carefully with regard to its effects on the patient's strength; everything that depresses will in-

jure; everything that stimulates will benefit; and just here, it seems to me, lies the main secret of success in fighting broncho-pneumonia.

With "stimulation" our watchword, our first aim must be to see that nutritious food is given in sufficient quantity; for no drug is equal to food as a sustainer of life. The food must be nutritious—that is, capable of assimilation, and it must be given in definite amounts, at regular intervals, so that the digestive organs will not be overtaxed. Milk is the best diet, peptonized if its digestion causes any inconvenience. I commonly order six ounces for an adult every two hours, so that at least two quarts will be taken in the twenty-four hours. There is no objection to animal broths, if the patient tires of milk; but milk gives a maximum of nutrition with a minimum of bulk, and always deserves first choice. Next to careful feeding one should think of some form of alcoholic stimulant. In other diseases we wait for symptoms of depression to arise before we begin giving alcohol as a stimulant; but in broncho-pneumonia depression is the precedent condition that makes the disease possible. I believe, therefore, that whiskey should be given from the outset, and the only question at first is as to the amount advisable. I usually begin by ordering three ounces in twenty-four hours—one-half ounce every four hours, increasing this amount as the condition indicates and judging from time to time about the necessity for more by the pulse, the temperature and the degree of prostration.

Chief among stimulant drugs comes strychnin sulphate, which in broncho-pneumonia meets several indications. *First*, it acts as a stimulant to the respiratory center, increasing the force and depth of inspirations, thus keeping the small tubes open and preventing collapse of air-sacs. *Second*, it acts as a stimulant to the reflex activity of the cord, exaggerates the impression sent to the cord by the secretion in the tubes, makes the cough in turn more forcible and efficient, and so causes elimination or at least prevents accumulation of the viscid exudate. *Third*, it acts as a stimulant to the heart, increasing the force of the contractions of the right ventricle, and so helping it to overcome the obstacle in the way of its work. Strychnin, like alcohol, should be given from the outset in a case of broncho-pneumonia. The dose at first should be moderate, 1-30 grain every eight hours, gradually increased, if indicated, to once in six or once in four hours. In desperate cases the action of the drug is more certainly obtained by hypodermic injection, and the dose often has to be pushed to as high as 1-24 or even 1-20 grain every four hours. The only other drug indicated for routine administration in broncho-pneumonia is the carbonate of ammonium, but as a stimulant, not as an expectorant. It is undoubtedly a powerful stimulant to both respiration and circulation, though more fleeting and transitory in its effect than strychnin. Its action as an expectorant is entirely secondary and accidental, due to its elimination by the bronchial mucous membrane, and its promotion of secretion by its presence there. The dose of carbonate of ammonium, commonly advisable, is five grains every four hours, and it can be advantageously given in a mixture of syrup of tolu, mucilage of acacia, and water.

These are the therapeutic measures to be thought of first in the treatment of broncho-pneumonia. But no plans can be made for its care that are not subject to modification from day to day or even from hour to hour. Every case should be watched with the same systematic attention to detail that is given to typhoid

fever. It is very desirable to have, if possible, a trained observer at hand in the person of a professional nurse. The temperature must be taken at least three times a day, or, better yet, every four hours. The number of respirations must likewise be frequently noted. The pulse must be watched most carefully as regards both its rate and its character. The color of the face, of the ears, of the lips and of the nails must be continually observed, for the warning thus given of interference with proper oxidation of the blood. The amount of nourishment taken in each twenty-four hours must be accurately recorded; likewise the amount of urine voided and the number of hours of sleep obtained. It is only by keeping the case thus well in hand that one can tell whether to modify a plan of treatment once adopted or to continue with what is being done.

Some symptoms that at times demand special treatment must now be mentioned. First on the list comes *cough*. This feature of broncho-pneumonia is a necessity of the case, and is not to be lightly interfered with. By means of cough the bronchial secretion is kept from accumulating or is removed; and to continually repress it or stop it is bad practice, apt to be followed by higher temperature, increased dyspnea and cyanosis. While opium has no place in the routine treatment of broncho-pneumonia, and is rather to be avoided as a general rule, yet now and then cough becomes so constant as to interfere with rest, and more depression comes from allowing it to continue, than from the administration of an opiate. To check cough, the least harmful opiate is Dover's powder. Five grains or even ten grains at a dose should be given, but not repeated until again demanded. Often such a dose once in eight hours or, at most, once in six hours is required to preserve the proper balance between cough and repose; but the dose should not be repeated at all unless the necessity for rest demands it. I choose Dover's powder first as most desirable for the control of cough, but sometimes where it fails to quiet, one-half grain of codein will act like a charm. Third on the list, and least desirable among opiates, in broncho-pneumonia, comes one quarter grain of morphin hypodermically; but nevertheless it sometimes has to be resorted to at last, in order to secure rest.

Pain is never as prominent a symptom of broncho-pneumonia as of lobar pneumonia. More often the complaint is of a sense of tightness and soreness rather than of acute pain. This sensation does not usually demand opium for its relief, but can be overcome by hot applications to the chest. And this leads me to speak of a therapeutic measure not so far mentioned, the flaxseed poultice. I did not include it in the routine treatment, because I do not believe in adults it is always indicated; but there are certain conditions that make its use advisable, and most prominent among these is the discomfort in the chest. Nothing gives so much relief to the pain or soreness of broncho-pneumonia as a hot flaxseed poultice, or even a poultice-jacket covered with oiled silk. I am aware that the flaxseed poultice is no longer the fashion, and has been condemned by numerous high authorities; but I believe it still has its usefulness and often does great good, especially for the relief of the symptom now under discussion.

The *fever* of broncho-pneumonia rarely becomes high enough to constitute a source of danger or demand special antipyretic treatment. Certainly depressing drugs like phenacetin, antipyrin or acetanilid are distinctly contraindicated. High temperature usu-

ally means a wide area of infection and extensive absorption of toxins, and therefore calls for additional stimulants rather than for depressing drugs. Fever demands special treatment in broncho-pneumonia only when it causes unusual restlessness, irritability and disturbed sleep; and here a soothing effect can be obtained by sponging the extremities or the entire body with equal parts of cold water and alcohol.

Insomnia is a symptom that at times demands special attention. In a disease with protracted course, like broncho-pneumonia, where success depends so largely on maintaining the patient's vitality, we cannot afford to ignore so important a cause of depression as lack of sleep. If it is the cough that interferes with rest, Dover's powder or codein or morphin will be required to give repose, but more often it is simply the restlessness that comes from anxiety or from the irksomeness of the day's routine. In such case, trional answers best as a hypnotic. Combined with codein, its power seems to be enhanced and its effect prolonged—the right proportion being, as a rule, one-quarter grain of codein with fifteen grains of trional, given in the early evening. Another device that answers well in many cases is a rectal suppository containing ten grains of asafetida. And still a third remedy of long-proven usefulness, if the others fail, is sodium bromid in dose of thirty to forty grains. I prefer to give this also by the rectum, dissolved in a little starch water, in order to spare the stomach.

Scanty secretion from the bronchial mucous membrane is a symptom that now and then calls for a modification of the original plan of treatment. The cough is excessive and troublesome, causes a great deal of soreness in the chest, but is accompanied by little or no expectoration to justify the paroxysms. Here again the hot flaxseed poultice or jacket is distinctly indicated for its relaxing effect. It is well also to substitute now for the carbonate of ammonium, the chlorid of ammonium, which is not so distinctly stimulating, but has more power to promote secretion from the bronchial mucous membrane. This action of the chlorid ammonium is increased by the addition of a small amount of the iodid of potassium to each dose. For instance, I prescribe $7\frac{1}{2}$ grains of the ammonium chlorid and $2\frac{1}{2}$ grains of the potassium iodid in a tablespoonful of a mixture of syrup of licorice, mucilage of acacia and water, every four hours, substituting this mixture for the carbonate of ammonium mixture originally planned. Finally, Dover's powder finds another indication for its use when secretion is scanty, not merely for the relief it gives to cough, but for the relaxing effect on the bronchial mucous membrane and the promotion of secretion that the ipecac in the powder affords.

Excessive secretion, on the other hand, occasionally constitutes a very serious menace to life. The amount of sticky, ropy mucus poured out into the tubes becomes so profuse that it cannot be removed rapidly enough to leave proper air space. In such a state of affairs the indications for treatment are two: *First*, to check secretion, and, *second*, to meanwhile increase the power of expulsion and to keep the heart and respiration going, by increased stimulation. To check excessive secretion no drug is more reliable than atropin sulphate, given hypodermically. The dose should be 1-150 to 1-100 grain, repeated once in six hours or even once in four, according to the effect produced. Furthermore, any ammonium salt that is being given must be stopped temporarily, for even the carbonate increases the bronchial secretion, though

not to the same extent as the chlorid. The stimulants already advised must now be pushed. The quantity of whiskey must be increased to six ounces or to twelve ounces in twenty-four hours. Strychnin is especially to be depended upon in this emergency, for no other drug gives the patient so much power to get rid of the secretion, and no other affords equal support to the circulation and respiration. Atropin, like strychnin, is a powerful stimulant to respiration, and thus becomes a doubly useful remedy here. The strychnin and atropin should be combined hypodermically, and the dose of the former must be increased to 1-25 or to 1-20 grain every six hours, or every four hours, according to the urgency of the symptoms. Finally, in a crisis, when the lungs seem about filled up with material that the cough is powerless to remove, an emetic will sometimes succeed in relieving the accumulation, and so in saving the patient from apparently inevitable asphyxiation. Some form of ipecac is advisable for this purpose, because it is the least depressing of the emetics; of the wine an ounce should be given, or of the powder a small teaspoonful.

Cyanosis is a symptom that always calls for prompt and vigorous management. It means deficient oxidation of the blood and the accumulation in it of carbonic acid gas. Whether this be due to lack of air space in the lungs from obstruction or to inefficient pulmonary circulation from dilated right ventricle, it demands stimulation for its relief. Here, again, whiskey should be freely administered. Strychnin and atropin in full doses must be given hypodermically; and digitalin, in dose of 1-50 grain, should be added to each injection if there is evidence of cardiac weakness. Another drug of great usefulness here, as a stimulant to both heart and respiration, is caffeine, in dose of five grains of the citrate of caffeine every six hours. I wish, also, to speak a good word for oxygen, which has unfortunately fallen somewhat into disrepute, because, so often, its exhibition is simply the last resort. If used early, when cyanosis first appears, it gives great relief to respiration and restores normal color to the skin more promptly than any other remedy. I order oxygen for a case as soon as the slightest evidence of cyanosis is seen, and have it administered continuously until normal color is restored. It is employed again as often as blueness of the surface is observed, and in this way has repeatedly proved a valuable aid in the fight.

Diminution of urine is a symptom that in old people especially should be looked upon as of grave import. If the amount of urine voided during each twenty-four hours is regularly recorded, any decided decrease from the normal at once becomes apparent. Too often it means that an old granular kidney is proving inadequate to the extra work thrown upon it by the acute infection. Particularly if urinary examination shows the presence of albumin and granular casts, the probability is strong that a uremic condition will develop to complicate, and too often to terminate, the case. The best drug to avert this disaster and to whip up the amount of real secretion is nitro-glycerin. It acts best when given hypodermically in dose of 1-100 grain every four hours. Infusion of digitalis should at the same time be given by mouth, and hot poultices should be applied across the loins.

The treatment of broncho-pneumonia in infants deserves especial consideration. It is here that the disease finds its richest harvest, for the mortality, according to Holt, runs as high as 30 per cent. Assume the case of an infant, six months old, bottle-fed,

under-weight, badly nourished and anemic—such a one as commonly falls a prey to broncho-pneumonia—what can be done for such a frail bit of humanity? The first necessity is that a nutritious food be given in definite amount at regular intervals. Whatever preparation the baby has been taking previous to this illness had better be continued, unless it is manifestly improper and unfit. If a new food must be selected, it had better be one of the milk and cream formula, with low proteid percentage and peptonized. Careful feeding of an infant with broncho-pneumonia is, to my mind, the prime essential, and disturbance of digestion is the complication most to be feared. Beside the regular food, nothing else should be allowed except water that has been boiled, given either plain or with white of egg stirred in it. It is a mistake to add stimulants or medicines to the infant's food; they should always be given separately. Excessive handling of a sick infant is depressing to it and should be avoided, but frequent change of position is necessary. The baby should be kept in a well-ventilated room, not too warm. Abundance of oxygen is an essential, and heat is always debilitating. Nothing is more exasperating than to find an infant with broncho-pneumonia shut up in a small room with all doors and windows closed for fear of draught, the thermometer 80 degrees or above, and three or four women hovering about the child, exhausting its oxygen and breathing their carbonic acid in its face.

I believe in the routine use of the poultice-jacket for infants with broncho-pneumonia. My main reason is that they do better with it than without it, regardless of all theories to the contrary. I advise that with the flaxseed meal a little mustard be mixed in making the poultice, usually in the now classical proportion of 16 to 1. I advise further that twice in the day, when the poultice is changed, the chest shall be thoroughly rubbed with warm camphorated oil. Stimulants are advisable as a routine measure, even from the outset. Brandy seems to agree with the infant's stomach better than whiskey does, and is usually to be preferred. I order it at first in doses of twenty drops every four hours for the infant six months old—two drachms, therefore, in the twenty-four hours. This is often increased later to a half-ounce or an ounce in twenty-four hours. It should always be given well diluted, the twenty drops in at least two teaspoonfuls of water. Among drugs I have but two for routine use, and both are stimulants—chlorid of ammonium and strychnin. I select the chlorid in preference to the carbonate simply because experience has proven that it is less apt to disturb the stomach of the infant. At six months the proper dose is one-half grain, given every four hours, in syrup of tolu, mucilage of acacia and water. The strychnin I give in plain water solution; at six months the proper dose is 1-400 grain given every six or every four hours. This dose is easily obtained by dissolving a 1-25 grain hypodermic tablet in two ounces of distilled water and giving one teaspoonful of the solution.

The infant must be watched even more closely than the adult for evidence of change in its condition. It must be remembered that with even an average case of broncho-pneumonia at six months the respirations will be about 80 to the minute and the pulse 140 to 160. The temperature is a valuable index to the progress of the disease, and must be taken frequently: always by rectum, for in infants no other method is reliable. Increased rapidity of pulse and respiration call for increased amount of brandy and strychnin.

Atropin can often be added with advantage as a respiratory stimulant; at six months the dose is 1-1200 grain, which can be easily obtained by adding a 1-150 grain hypodermic tablet to an ounce of distilled water, and giving a teaspoonful of the solution. Fever is rarely high enough to demand antipyretic treatment, and the depressing coal-tar drugs should be carefully avoided. If symptoms of nervous disturbance arise from fever, as they are especially apt to do in infants, cold sponging or even the bath gradually cooled from 100 degrees to 80 degrees are far more efficacious and less dangerous than antipyretic drugs. Restlessness from cough demands Dover's powder, the dose at six months being one-half grain, never repeated except as required to secure rest. Opium is especially depressing to infants with broncho-pneumonia, and should always be guardedly administered. For attacks of cyanosis and collapse from respiratory failure, the best treatment is the hot mustard bath, made in the proportion of one tablespoonful of mustard to one gallon of water at a temperature of 100°. In this the infant should be immersed for from ten minutes to half an hour. It should then be removed and dried, and oxygen administered by inhalation, strychnin and atropin hypodermically, and friction and even flagellation should be employed as external stimulants to respiration and circulation.

I am aware that the foregoing enumeration of our therapeutic resorts contains nothing new, but these have all been tried and are recommended from personal experience. In no other disease are greater demands made upon our resources than in this; and I have thought that this review of the ones at our disposal would be profitable to us all. In every case we must fight continually and never despair; for to us it is given to command the forces in the battle against disease, and if we lose courage who then shall hope?

CLINICAL OBSERVATIONS OF CANCER.

BY M. O. TERRY, M.D., UTICA, N. Y.

IN regard to the microscope being unable to detect definitely the cancer cell, a case is recalled, of many years ago, of a cancer located at the lower third of the leg. It was that of a woman. The open ulcer was fully three inches in diameter and ringed at its margin one-half the width of the finger. The tissue was excised at what was considered a safe distance from the morbid process and the specimen sent to Prof. Heitzman, of New York. Expert as he was, he was unable to determine positively its nature, as he states:

"Scirrhus or hard cancer invading a hyperplastic elephantiasis derma.

"The lower surface of the tumor, the cut-surface, is crowded with inflammatory corpuscles, which makes them very suspicious.

"There is a slight possibility, however, that the tissue crowding the lymph vessels is endothelial in nature, such as I have seen in rare cases of tumors of the skin.

"Watch the case carefully. Should the tissue grow up soon it is undoubtedly cancer. Should the wound heal kindly, it is a benign endothelium."

Perhaps it may be of interest to give the treatment pursued. Instead of amputating the leg, the ulcer was encircled with Marsden's solution of arsenic. The area was so extensive that systemic poisoning followed. This was neutralized by the iron antidote of

arsenic. The slough was removed, a healthy granulating surface appeared and grafting was performed over an area of exposed bone fully one and one-half inches in diameter. The process of healing was slow, but perfect recovery ensued, as now eight years have elapsed. This is a case from which it is thought we may draw many practical conclusions.

In regard to the delicate line between a benign and a malignant growth, let us illustrate from a practical observation of the localization of cancer of the breast. A blow is received, or an induration exists following an abscess incident to lactation. It remains stationary possibly for years. This will depend largely upon the age of the patient and the general good health existing. Eventually—it may be ten years—the patient will be conscious of an increase in size and an uncomfortable sensation in some instances takes the place of an absence of all feeling. If the surgeon be consulted now, and the growth removed, a simple adenoma may be shown under the microscope. This will not return if entirely removed. Suppose the patient defers the operative procedure until sometime later, what will we find? We will find the transitory stage shown under the microscope in the form of adeno-fibroma. This growth will not return if entirely removed; it is non-malignant. Again, the patient procrastinates still longer. The adenoma has melted into a fibroma and the fibroma has continued on progressing in its evolution and we now have a fibro-sarcoma in some instances. If this complex growth be removed entirely with the gland and the sarcoma has not broken the capsule it will not again return. But when this capsule has given away, allowing the dissemination of the cancer cells, or in case the termination be that of scirrhus, then the probability of return will depend upon the extent of infiltration or lymphatic infection. Or, in other words, before it has reached the periphery of the gland or has extended its malignant claws to any great extent into the pectoralis muscle we can, by a most extensive operation, cure our patients in a very large per cent of cases.

In regard to the dissemination of the cancer cell, so-called, we can understand it best, perhaps, by watching the efforts of nature to protect herself in the ordinary injury, as shown, for instance, by the prick of a pin in the finger. Nature immediately sends forth innumerable leucocytes to surround the injured part; to wall it in, as it were. The microbe of infection begins its disorganizing work, and we have an abscess. After the poison has been expelled the normal leucocytes fill in the excavation, after which they return and are lost sight of in the regular physiological current of life.

It is so in the case of cancer; the leucocytes of which the blood current is composed are able to resist the encroachments of a malignant stranger. The yeast product of fermentation continues its leaven, until finally the barriers have been removed and full possession given, when we have systemic infection.

The cancer cell up to the present date has evaded the most scientific investigator, so far as his method of dissemination from its incipency is concerned. We have been able only to watch its peculiarities as manifested in the various tissues. It is only by careful observation, extending over years of study and noting its peculiar manifestations, that we will be able, by bringing the various facts together, to deduce sufficient evidence by which we can grasp its cellular mysteries. I can do no better, therefore, than to continue

to outline my personal observations, showing under what control we have been able to place this terrible disease by surgical methods or otherwise.

It is fully fifteen years since a case came to me of a man of fifty-five years of age, who had what was supposed in the first instance to be an exaggeration of a granulation process, the sequence to a chronic granular conjunctivitis. A careful excision was made of the tissue referred to and a soothing collyrium and mild surgical dressings continued for some time. The condition did not materially improve, but rather increased. He was sent to New York to one of its most eminent oculists, who performed a similar operation most thoroughly, after which the patient returned home. The patient was not long under my observation before it was noted that the morbid process again seemed to assume a more active form. The lower lid became considerably thickened its entire length, and even the external canthus was infiltrated. The eye and the surrounding tissues, which now seemed to be infected like a cancer, was thoroughly removed. The upper lid, its margin having been excised, was attached to the excised surface below. A good union resulted, but there remained for a long time a sinus at the external surface with slight induration around its borders. The parts were dressed with antiseptic gauze and eucalyptus cerate. The sinus was washed out with a weak solution of bromine and soda.

During all this time there was an ulcerated area on the left hand, its dorsal surface, which steadily grew worse. Marsdin's caustic was used, a slough came away and healthy granulation ensued for a time, but the morbid process asserted itself again, and the hand was amputated, with the exception of the thumb and first finger. Flaps were made from healthy tissue apparently, union of surface took place to a large extent, but again evidence of malignancy asserted itself, when I immediately amputated the arm at the lower third. A healthy union resulted, and the man has remained well during the past fifteen years.

Contrary to the German opinion, I am a believer in the operative procedure, when there is not evidence of systemic invasion or very extensive lymphatic involvement. To illustrate: I have in mind two cases. In one case the right breast had removed from it a growth by a specialist who used some secret cancer escharotic. The cicatrix following was an ugly one, the ribs over the right pectoral region being covered only by skin. One year later, I saw and examined the left breast, a lump having been discovered there also. The patient stated that she thought she was "rotten" with cancer, and had but little hope of recovery. The growth was not attached beneath and the indications were that of a simple adenoma, which the microscope proved to be true. It was removed, and nine years have elapsed and there has been no return. The first growth was unquestionably that of an adenoma, as was this last one.

The importance of knowing the character of the growth is clearly shown in this case, as I was able to state she would have no return, and my prognosis has been fully verified.

In the second case, I removed both breasts at the same operation. This was over seven years ago, and the patient is still free from any infection.

Advanced age, with a favorable outlook, should not debar us from operating in this class of cases. I recall a patient, a woman, over eighty years of age, who had a small, hard growth in one of her breasts, which was

removed and no return occurred, she dying two years later from causes distinct from cancer.

A gentleman, having an epithelioma, one inch and a quarter in diameter, located external to the temporal canthus of the left eye, which had begun previously, steadily growing, and who had been under a distinguished skin specialist in New York city for more than a year, came under my observation. I immediately removed the ulcerated growth, bringing the parts in direct apposition, which upon healing, by using sliding flaps, left simply linear scars. The specimen was examined at its periphery and underneath. The microscopist reported that there was no indication of cancer at these points. Six months have elapsed, he is perfectly well and there is no indication of any return.

Bennett, in the *Lancet* for 1899, speaks in regard to malignant and benign growths that although some are malignant in structure, they pursue an innocent course, even disappearing spontaneously. Others become quiescent, while, on the other hand, innocent growths at times act on malignant lines. He also speaks of the unreliability of the microscope in determining whether a growth will run a malignant course or not.

It has been my custom in malignant growths to continue the use of iodide of arsenic in full doses for several months. I must confess my lack of faith in the efficacy of remedies prescribed for difficulties of which so little is known. I usually give hydrastis as a matter of form, supported, it must be acknowledged, by only a minimum of reason.

HYSTERICAL TEMPERATURE.*

BY W. F. BOGGESS, M. D., LOUISVILLE, KY.

THE subject of hysterical temperature is one of a great deal of interest, and every now and then you will see a short article on the subject in the medical press. Just what the factors are which go to make up the elevation of temperature from hysteria, of course, we know very little.

I saw a patient this summer in whom on two occasions the temperature reached 110° F., pulse 96. The two clinical thermometers I had at the time, and one of a confrere only register 110° F., the mercury ran up as high as we could see it, and possibly had the thermometer registered 115° F. It might have reached that figure.

It was a exceedingly interesting case; the woman was not septic, and there was no special reason for an elevation in her temperature. She was very nervous and hysterical, and when I felt her pulse I did not suppose she had any elevation of temperature, but having been deceived in her case several times previously when the thermometer was placed in her mouth and registered 105° F., I thought I would try her temperature on this occasion, and found that the mercury ran out of sight, or 110° F. This seemed entirely out of proportion to her pulse, and I shook the column down and tried it again; the same temperature was registered in this second test. I then called in a brother practitioner and the same temperature was registered by his thermometer.

The next morning I say the patient and her temperature was normal, or practically so, 99° F. Three weeks afterward I was called to see her again and found her with a pulse of 96°. Her temperature was

* Reported to the Louisville Clinical Society.

taken with the same two thermometers I had with me on the previous occasion, and I found that it ran up to the top of the column, or 110° F.

I gave her a sedative, a hypodermic of morphine and atropia, cold cloths to her head, and the next morning at my visit her temperature was found normal.

The subjects of hysterical temperature furnish an interesting study. It is not often that we find a purely hysterical elevation of temperature, and where found it does not usually run very high. I have seen cases of hysterical temperature reported running as high as 114° F. without any serious effects. That there is a difference between an infectious temperature and an hysterical temperature I firmly believe, because in this case there was not much prostration, the woman was bright, mind perfectly clear, in good condition, and we would not expect to see any elevation of temperature.

Just what the pathology of hysterical temperature is we cannot say. We can say there is a disturbance in the thermolytic and the thermogenic centers, but that does not explain the pathology of the fever, and I would like to hear the opinions of the members of the society on the subject.

CASE 2. Another interesting case was that of a little child. I delivered a woman in a rather precipitous labor on Friday. On Sunday night I was called to see the child in a typical cerebral spasm, such as we see coming on within five days after forceps delivery or prolonged labor; but this woman was not in labor over an hour. I watched the case for an hour or two, and presently the child's nose began to bleed; a little while afterward it had hemorrhage from the bowel; in a short time it was thoroughly covered with purpuric spots, so I concluded this was a case of purpura neonatorum, which is, I think, a rather unusual occurrence.

We can safely say that any spasm which comes on under the age of five days is of cerebral origin; after five to twelve days then we might look for trismus nascentium or tetanic infection. But it is unusual to see a child die with such diffuse hemorrhage from the nose, from the bowel, into the brain, and a general condition of purpura.

DISCUSSION.

Dr. Ewing Marshall:

I have never seen a case of hysterical temperature. I have always thought that when the temperature went up to 112° or 114° F., unless caused by heat stroke, that it was a pretty sure sign of impending death. I am glad to have heard Doctor Boggess' report of the case.

Dr. T. P. Satterwhite:

The high temperatures that we frequently see are usually due to ordinary malarial trouble. That is one of the diagnostic symptoms of an ordinary intermittent fever, the sudden great elevation of temperature, often going up to 112° or 114° F. I remember the late Doctor Guntermann reported to this society a case of chills and fever in which the temperature reached 114° F., with a not very high pulse. Invariably in patients having a nervous temperament the temperature during a malarial attack runs infinitely higher than in persons of a different temperament.

Dr. J. W. Irwin:

I recall two cases of emotional temperature which I reported to the Louisville Medico-Chirurgical Society some time ago. The temperature reached 109½°

F. in two children in the latter stages of typhoid fever. One was aged nine, the other eleven years. I recorded that as an emotional temperature possibly of an hysterical nature, and it has been placed on record, I believe, to that effect. The temperature of the surface must not correspond, according to the best physiological research, to the internal temperature, for I believe it is stated that the blood begins to coagulate when the temperature exceeds 110° F. in the axilla; therefore, there must be some peculiar condition of the system to prevent this coagulation during this emotional temperature. I have read of temperatures being recorded as high as 116° F., but think there must have been an error in these statements. When a temperature of that kind occurs, or even 109½° F., such as I have seen, it usually lasts but a short time. In the two cases I reported the high temperature did not last over two hours; it cured itself by complete relaxation of the skin, followed by copious perspiration. In most of these cases it is very hard to account for the changes which take place, and where the heat centers are is not clearly defined; there are suppositions, but these suppositions are not borne out.

The highest temperatures we observe in organic disease occur in polio-myelitis, and they closely resemble hysterical temperature, and when such temperature lasts over two hours we must look for some organic change.

It would be interesting to know how long this high temperature existed in the case reported.

I once saw in consultation a patient who had a temperature of 108° F. It was thought to be an hysterical temperature, and cold water was used before I saw the case; but I pronounced it a case of basilar meningitis, affecting also one side of the brain. The child died, and an autopsy found the base and one side of the brain covered with inflammatory deposits, showing that the diagnosis I had made was correct. That was not an hysterical temperature; it was due to an inflammatory condition.

Touching the second case: To my mind purpura hemorrhagica is of neurotic origin. Some change takes place in the sympathetic system, and in this way gives rise to dilatation of the vessels and allows capillary effusion to occur on the surface, just as it would in the cerebral centers, or elsewhere. It is hard to understand any of these cases, in view of the fact that we see little of the pathology, and we know so little of the pathological anatomy after death.

Dr. W. F. Boggess:

The highest temperature I have ever seen, not of an hysterical nature, was 108° F., just before death of a woman with puerperal sepsis. It is well known that in insulation cases we have high temperatures, 108°, 110° and 112° F. being reported, followed by recovery. Fox reports a case of acute articular rheumatism, with recovery, in which a man had a temperature of 110° F.

I agree with Doctor Irwin that high temperature, if the patient recovers, lasts but a short time. In malarial cases we see high temperature, it is true; but there is almost always a corresponding acceleration of the pulse; there is a certain ratio in malaria between the pulse and temperature that we do not get in other conditions.

In regard to the case of purpura, I will say that I looked upon it not so much an infection as due to a general condition of the patient. I believe many path-

ologists now claim that purpura hemorrhagica is due to a specific infection. In this case it was more a congenital defect of the arteries and veins; it was a congenital defect rather than a specific infection.

A CASE OF ACQUIRED CRETINISM TREATED WITH THYROID EXTRACT.

BY HERBERT W. FOSTER, M.D., MONTCLAIR, N. J.

ON January 8, 1898, I was consulted by Mrs. C. concerning her daughter, whom we will describe as follows: She led into my office a little girl three feet four inches tall, weighing fifty pounds, wearing short clothes and spectacles. The patient was twenty-six years old. She has a brother of twenty-four, a fine, tall, manly fellow. Family history negative.

When our little patient was three years old her mother noticed a "swelling in her neck." This gradually grew, when five years later a surgeon was consulted, who removed at least a large part of the thyroid gland. Up to the time of the operation she had been a normal child in every way. After the operation all development of the child suddenly stopped; she grew old physically without developing, and mentally came to a standstill. In three months she could hardly be recognized by those who had known her.

We will describe her as we found her January 8, 1898. The casual observer would take her for a child of seven or eight, but closer observation would show this condition: As we said, height three feet four inches; weight, fifty pounds; waist, twenty-three inches; skin of body and face, dark colored, dry, wrinkled and in places cedematous, giving her a peculiarly old, dwarfish look; scalp, scaly and nearly devoid of hair; eye-brows, very thin; no pubescence or hair under arms; nails, thick, short and dry; pupils, dilated; spectacles worn for myopic astigmatism; mentally very dull, shy, taking no particular interest in anything; had been taught to read and write some, but paid little attention to these things; never asked questions like a healthy child; sought no playmates or companionship other than that of her own family; no sexual development, mental or physical; general health very poor; digestion weak; vomited food on the slightest occasion of mental or physical excitement; bowels constipated mostly, with occasional reactionary diarrhea, which the family called "bilious attacks;" menstruation never appeared. Patient seemed to have little body heat, but was always sitting around the radiator to keep warm. Never would run or jump; no spring or elasticity whatever in her body; voice hoarse, of low pitch and disagreeable quality. In general the little, old, wrinkled, cedematous creature would fill the stranger with curiosity and pity.

On the above date I prescribed Parke, Davis & Co.'s Thyroids, 2 grains of which represent 5 grains of the fresh thyroid gland from the sheep. Of this I gave 3 grains three times daily. In one month her appetite had begun to improve, and she had become intolerant to so much of the remedy. We reduced the dose to once a day. In three months my note book reads as follows: "Hair begins to come in thick on head, eye-brows also much more marked; neck less thick, less puffiness in face, pupils less dilated; bowels and stomach nearer normal; eats rather more and is hungry at times, which thing had never occurred before. Continue medicine once a day."

One month later saw the patient; same changes still

going on very rapidly. At times, since that until the present, on account of violent frontal headaches, I have been obliged to decrease the dose to one in forty-eight hours, keeping it up once in twenty-four hours as much of the time as possible. She has now gradually developed into apparently a bright, healthy child of say eight or nine years old. Her skin, instead of being scaly and puffy, is comparatively smooth and pink; her scalp has become healthy; she has two golden braids of hair now where she had hardly one small grayish at first; the glasses have been discarded, as she doesn't require them; mouth has become smaller; lips less thick; nose less flat; pupils normal; neck much smaller; waist several inches smaller, so that her clothes have had to be changed. Her mental condition is that of a healthy child; she asks all manner of questions; takes interest in everything; wants to know what the newspapers say; took great interest in the Spanish war, followed it all through; notices the beautiful in landscapes, flowers, etc.; has a good, healthy appetite, digestive system seldom upset; voice has become of higher pitch and much more agreeable; laughs and wants to play like other children; finger nails become less thick, and apparently longer, showing lunulae. Patient never before had any spring in her body; now can jump and run like any child; is talkative where she was very retiring; body heat is much better.

Her teeth absolutely stopped growing at the time of the operation, twenty years ago. She now has some of the first set of teeth, and since taking medicine has cut two molars. Teeth in general look like those of a person of forty who has failed to care well for them.

The mammary glands show slight development, and hair has begun to appear on the pubis. Menstruation has not appeared, but about October 1 she complained of backache, the pains extending around through the loins, followed by a leucorrhœal discharge, which lasted a little more than two days. Whether this was an effort at menstruation I do not know, but it certainly looked like a strong effort of nature in that direction.

She has gained nothing in height nor weight, but has changed into an apparently bright, quick, happy and healthy child. The puffiness has practically left her body, and the wrinkles left by twenty years of the unhealthy condition are growing less and less in evidence. She has a good appetite, eats and digests nearly everything, and sleeps well. I shall be glad to report any marked changes that may occur in the patient in the future.

—Dr. W. H. Vail, in speaking of gastric and intestinal disturbances in the *Medical Mirror*, says:

The beneficial results which Hydrozone and Glycozone have afforded me in the treatment of this class of disorders have caused me to discard all the other methods of treatment by drugs that exert an ephemeral influence but do not jugulate the offending condition. What is needed in these diseases is an antiseptic that will destroy all pathogenic germs, and at the same time stimulate the walls of the stomach. Hydrozone kills the bacteria, dissolves the mucus and prepares the stomach to better digest the food, in short it deters the stomach, hence in it we have an efficient antiseptic; Glycozone removes the mucus from the walls of the stomach, stimulates and heals. I have discovered these two preparations to be ideal ones in treating this very common and distressing disorder.

LEGAL DECISIONS OF INTEREST TO THE MEDICAL PROFESSION.

PREPARED BY ANDREWS & MURDOCH, BERRIEN
SPRINGS, MICH.

The State Board of Health will be enjoined from interfering with or molesting one in the practice of his profession as an osteopath. *Nelson vs. State Board of Health*, 5 S. W. Rep. (Ky.) 501.

An agreement by a doctor not to practice his profession within 10 miles of a certain town for 10 years is not void, as against public policy, at common law. *Wolff vs. Hirschfeld*, 57 S. W. Rep. (Tex.) 572.

An agreement by a doctor not to practice medicine in a certain locality for 10 years is not within Rev. St. 1895, art. 5313, making contracts void where a combination is formed to restrain trade or prevent competition. *Wolff vs. Hirschfeld*, 57 S. W. Rep. (Tex.) 572.

Where there is evidence tending to prove each of the facts stated in an hypothetical question in a criminal case, it is not objectionable because it did not embrace all the facts in evidence. *Howard vs. People*, 57 N. E. Rep. (Ill.) 441.

Under Rev. St. c. 38, div. 1, § 3, making the crime of abortion punishable as murder, if the death of the "mother" results from such abortion, etc., the word "mother" means a woman pregnant with child. *Howard vs. People*, 57 N. E. Rep. (Ill.) 441.

Under an indictment of the defendant for murder for producing an abortion on the deceased, defendant may be convicted of manslaughter, since the lesser crime is included in the greater. *Howard vs. People*, 57 N. E. Rep. (Ill.) 441.

Where the opinion of a medical expert is based upon a hypothetical question, it is proper to instruct the jury that if the assumed facts or any of them are not true, the opinion must be rejected by the jury. *Dudley vs. Gates et al.*, 83 N. W. Rep. (Mich.) 97.

In the exercise of the police power, the legislature may create boards of health, and invest them with the powers necessary and proper to prevent the spread of disease, and may confer upon cities authority to make regulations for the health of their communities. *Hengehold vs. City of Covington et al.*, 57 S. W. Rep. (Ky.) 495.

It is not proper to ask a physician, on cross-examination, whether it is not a fact that all the authorities lay down a certain rule, where he has not referred to any book or authority in such a way as to make it admissible to contradict him. *Galveston, H. & S. A. Ry. Co. et al. vs. Hanway et al.*, 57 S. W. Rep. (Tex.) 695.

Under Public Officers' Law, § 20 (Laws 1892, c. 681), defining the various events which create a vacancy, and the public health law, providing that a health officer shall continue in office until his successor is appointed, unless removed, failure to elect a health officer's successor does not create a vacancy, and hence an appointment by a county judge, under Laws 1897, c. 282, on the ground of a vacancy, is invalid. *People ex rel. Gray et al. vs. Scott et al.*, 64 N. Y. Supp. 970.

Under Code, § 707, subd. 22, providing that county commissioners shall make rules, regulations, and by-laws for preventing the spread of contagious diseases such commissioners have no power to burn a dwelling house to prevent the spread of smallpox;

and, such an act being outside the scope of their powers, the commissioners, in their corporate capacity, would not be liable to an action therefor. *Prichard et al. vs. Commissioners of Morganton et al.*, 36 S. E. Rep. (N. C.) 353.

Priv. Laws 1855, c. 120, § 37, providing that the town commissioners of Morganton, to prevent the spreading of contagious diseases, "are permitted to cause to be destroyed or disinfected such furniture or other articles which shall be believed to be tainted," does not give such commissioners power to burn a dwelling house to prevent the spreading of smallpox; and hence the commissioners in their corporate capacity are not liable to an action therefore. *Prichard et al. vs. Commissioners of Morganton et al.*, 36 S. E. Rep. (N. C.) 353.

Under Acts 1893, c. 214, § 22, providing that, where the county superintendent of health declares that a nuisance exists on premises, it shall be abated at the expense of the town or county, a complaint to recover for the burning of a dwelling house by the county commissioners to prevent the spread of smallpox, which fails to allege that the same was declared a nuisance by such superintendent, is demurrable. *Prichard et al. vs. Commissioners of Morganton et al.*, 36 S. E. Rep. (N. C.) 353.

Since Priv. Laws 1885, c. 120, § 37, authorizing the town commissioners of Morganton to destroy tainted furniture or other articles, to prevent the spread of contagious diseases, gives no power to burn a dwelling house to prevent the spread of smallpox, they are not liable therefor, in their corporate capacity, unless such burning was done in the negligent enforcement of their authorized duties; and a complaint in an action against the commissioners for recovery in tort on that ground, which does not allege such negligence, is demurrable. *Prichard et al. vs. Commissioners of Morganton et al.*, 36 S. E. Rep. (N. C.) 353.

A college which teaches osteopathy, a method of treating diseases by kneading or manipulation of the body, and does not teach surgery, bacteriology, materia medica, or therapeutics, is not a "medical college," within the meaning of Ky. St. § 2613, which requires the State Board of Health to issue a certificate to practice medicine to any reputable physician who has a diploma from a reputable medical college chartered under the laws of this state or from a reputable and legally chartered medical college of some other state or country, indorsed as such by the State Board of Health. *Nelson vs. State Board of Health*, 57 S. W. Rep. (Ky.) 501.

Where deceased, an unmarried woman 34 years of age, was in her usual health and performed her regular duties as a stenographer on the day prior to going to the house of the defendant, a practicing physician, and after remaining there one week she was taken to the hospital suffering from an abortion charged to have been committed several days before, a verdict finding the defendant guilty of committing the abortion will not be set aside, on the ground that such evidence failed to show that the abortion was not necessary to save the life of the deceased. *Howard vs. People*, 57 N. E. Rep. (Ill.) 443.

Under Ky. St. § 2059, providing for the appointment of boards of health in cities of 10,000 or more inhabitants, and providing that such boards shall have the same power within their cities as local boards for counties have within their jurisdiction; and Id.

§ 2055, empowering county boards to inaugurate and execute such sanitary regulations as they may consider expedient to prevent the outbreak and spread of epidemic diseases, and to that end to bring the infected population under prompt and proper treatment—an ordinance of a city of the second class providing for the removal of smallpox patients to a pest house in good sanitary condition, provided with proper nurses and physicians, is valid. *Hengehold vs. City of Covington et al.*, 57 S. W. Rep. (Ky.) 495.

Under Ky. St. § 3058, part of the charter of cities of the second class, empowering the council to establish and enforce quarantine laws and regulations to prevent the introduction and spread of contagious diseases, the council may by ordinance make reasonable regulations, in addition to those provided by the general law of establishing local boards of health, to prevent the spread of epidemic diseases; and therefore an ordinance providing for the removal of smallpox patients to the pest house upon the order of less than a quorum of the city board of health, or upon the order of the health officer, is valid, though the general law confers such power upon "the board." *Hengehold vs. City of Covington et al.*, 57 S. W. Rep. (Ky.) 495.

One who practices osteopathy, not using medicine or surgical appliances, does not practice medicine, within Ky. St. § 2613, which declares that "authority to practice medicine" shall be a certificate from the State Board of Health, though Id. § 2618, provides that "to open an office for such purpose, or to announce to the public in any way a readiness to treat the sick or afflicted, shall be deemed to engage in the practice of medicine within the meaning of this act," as the act of which these sections form a part, when considered as a whole, shows that the legislature only intended to regulate the practice of medicine by physicians and surgeons; and therefore a certificate from the State Board of Health is not necessary to authorize one to practice osteopathy. *Nelson vs. State Board of Health*, 57 S. W. Rep. (Ky.) 501.

In an action for injuries, it appeared that a physician called to attend plaintiff on the day after the accident found only a bruise on his hips and a discoloration in the lumbar region, near the spine. Defendant's expert evidence showed that, while a hernia might develop some time after a fall or blow, yet an intense pain at the time of the traumatism was a necessary symptom, and there was evidence that plaintiff had not always complained of such pain. Two of plaintiff's expert witnesses testified that in their opinion the accident caused plaintiff's hernia, and that protrusion was noticed about a month after the accident; and plaintiff himself testified that he had had continuous pain in his right abdominal side since the accident. *Held*, that such evidence sustained a finding that the accident caused the hernia. *McCready vs. Staten Island R. Co.*, 64 N. Y. Supp. 996.

Deceased, an unmarried woman 34 years of age, in apparent good health, went to the house of the defendant, a practicing physician, taking with her a night dress, wrapper, and fountain syringe. One week later defendant took her to her boarding house in a buggy, and left her on the front porch, in a helpless, distressed and deplorable condition. The next morning she was removed to a hospital, and, when examined by the physician, was found to be suffering from an abortion evidently committed sev-

eral days before, and from the effects of which she died a few days later. About this time the defendant left the State, and remained absent until arrested and brought back, charged with the abortion. *Held*, that the evidence was sufficient to sustain a verdict finding the defendant guilty of manslaughter. *Howard vs. People*, 57 N. E. Rep. (Ill.) 442.

Rev. St., art. 4339, provides that the county judge shall appoint a county physician as county health officer, who shall establish local quarantine when declared by proclamation of the commissioner's court, under article 4340, authorizing the commissioner's court to direct the county physician to declare a quarantine, and to provide pest houses, when threatened with disease. A pest house for smallpox suspects was established within 192 feet of public school grounds. In an action for an injunction from maintaining such pest house, defendants contended that the commissioner's court, in connection with the county health officer, had exclusive and final jurisdiction in the establishment of such houses. *Held*, that the establishment of a pest house in such close proximity to a public school was a nuisance, and that the authority did not authorize the maintenance of a nuisance. *Thompson et al. vs. Kimbrough et al.*, 57 S. W. Rep. (Tex.) 328.

Laws 1893, c. 661 ("Public Health Law"), requires all villages to provide a local board of health. Village Law 1897, § 43, provides that boards of health shall be appointed by the board of trustees in the manner provided by the public health law, and that they shall continue to have all powers provided by such law. Section 328 provides that the terms of all officers, except justices and assessors, shall expire on the Monday following the third Tuesday in March, 1898. *Held*, that as members of a village board of health organized in compliance with laws 1893, c. 661, were village officers, their term of office was curtailed by Village Law, § 328, and their successors were properly appointed by the board of trustees, it being the intention of the legislature to continue boards of health as provided in the public health law, and make it mandatory on villages to provide such bodies, but the manner of their election and appointment was regulated by the village law. *People ex rel. Gray et al. vs. Scott et al.*, 64 N. Y. Supp. 971.

In an action for injuries to plaintiff's left leg, expert medical evidence showed that during plaintiff's examination by the witness "he began to quiver, and the more he was directed to put his knee outward, the more the quivering increased;" that such quivering was a symptom of lack of spinal force or a lack of reflex power in the leg; and that the common medical term for such a condition is "railroad spine." Such evidence also showed that the most likely cause of loss of flesh, loss of memory, and pains in the back and down through the left leg, in one injured as plaintiff had been, would be the direct blow against the spinal column. It also appeared that immediately after the accident plaintiff had suffered pain in the spine, and his attending physician had found concussion in the lumbar region, and a slight paralysis leading down into the knee, and a bluish discoloration near the spine. *Held*, that such evidence was relevant and admissible, as tending to show that the cause of plaintiff's injured leg was a blow to the spine. *McCready vs. Staten Island R. Co.*, 64 N. Y. Supp. 996.

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EGBERT GUERNSEY, M.D., LL.D. ALFRED KIMBALL HILLS, M.D.

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"Let us be true; this is the highest maxim in art, and of life, the secret of eloquence and of virtue and of all moral authority."—AMIEL.

INTELLIGENT WORK HONESTLY DIRECTED.

THE United States in entering upon its stewardship in Cuba was fortunate in finding a man like General Leonard Wood, M.D., to carry out its plans in the emancipation and the elevation of the people to a condition which would render them fully capable of self-government or of forming an intelligent part of the great Republic. A glance at a few facts will direct the mind to what has already been accomplished in the short interval of time since our flag was raised over the island. Before that time there had never been over 26,000 children at school. It had already, at Dr. Wood's report in October, gathered 150,000, with an assurance that before the close of the year the number would reach 200,000. New schools have been established to the number of 6,000. Every city has its hospital; orphans are provided for in four great institutions; seven thousand miles of new roads have been built; for the first time order has been created in the island, and the casual plundering of the highway suppressed. Every city has begun improvements on a scale which, within two years, will transform it. In an island which in forty years of peace, broken by two insurrections, had accumulated a public debt of nearly \$400,000,000, all this work has been done without issuing a bond or increasing the burdens of the future, and all this has been accomplished by an industrial revival so substantial as to give assurance of a future prosperity unequalled in the history of the island.

May we not rightly conclude that what has been accomplished in Cuba may, with the same energy, the same wise forethought and the same ability of administration, be reached along the same lines, in a longer period it is true, in the Philippine Islands. There is no class of men whose training and range of studies is more directly in the line of the work to be accomplished in bringing the various tribes of the Philippines, some eighty in number,

of different races and of every grade of intelligence, from the cannibal to the cultured of civilized life, than the physician?

The statesman, the mechanic, the farmer, the theologian, the general educator, wise in their own special lines and profound in theory, still often fail in that psychological insight of character, of motive, of action formed by the study of the blending of all the elements of the human organism.

The physician through his studies, linked as they are with all science, and drawing facts and inspiration from them all, commences at the very bottom and traces the unfolding of the man from his lowest animal form to his highest intellectual and spiritual development in the light of heredity, reflex action and environment. With him theory gives place to facts, and facts lead to practical work in the right direction, and thus, slowly it may be, but surely is built up a strong, vigorous, intelligent and law-abiding community. In General Wood the administration has an object lesson which it would do well to study with the utmost care. It has before it a great problem to solve in our eastern possessions which will vibrate for good or evil throughout the world. We need something more than a military leader, something more than a statesman accustomed to deal with an advanced civilization; we need as one of the great factors in this work, one of the most important of the age, minds trained to fathom the lowest depths of human existence, and trace cause to effect through all the stages of development and action in the study of life. This training the broad-minded, cultured physician has, and it was this training, united with sterling honesty, patriotism and love for humanity, which has enabled General Wood to make a record which has astonished the world.

That record can be repeated in our new possessions if the same elements are brought into play, and there certainly can be found in a profession including among its members some of the clearest and most practical minds in the world just the material which will be of such immense value and which will be so much needed in shaping the future of those vast territories whose destinies for good or evil are in our hands. We have reached a point in our history where the very element which has accomplished so much in Cuba within less than a year, bringing harmony out of discord and laying broad and deep in the hearts of the people the foundations for a prosperity this island has never known in all its history, should be represented in the Executive council at Washington by one whose training in the study of life, not only as represented in the human organization but in the animal and vegetable world would make him a wise councilor in all that work of the interpretation and enforcement of nature's laws through which alone prosperity can ever be reached. None know so well as the man trained in the study of life in all its forms how much depends in mental and physical development upon environment. The observation of sanitary laws leads naturally to a higher physical and mental

condition, and the man whose professional training has been along that line which includes of necessity an intimate familiarity with every department of physical science would, as a matter of course, form a most important factor in awakening to new life and greater strength all those influences which would lead to healthier and more prosperous times.

It seems to us so evident that a department of public health should be established on a broader scale than anything we have now and should be represented in the Executive Cabinet, that we sincerely hope that at an early day steps may be taken to perfect its accomplishment.

A NOBLE WORK.

THE wise distribution of great wealth in the hands of public spirited individuals has given to the world institutions and inaugurated enterprises for good which it probably could not have obtained in any other way. We have only to point to the colleges and hospitals and asylums scattered all over the land, and to the organizations for the relief of the poor and the uplifting of humanity, to show the great good accomplished by a wise distribution of means attained in the legitimate lines of labor and financial enterprise. Another great work for the public good is now being rapidly pushed to completion by the munificence of John D. Rockefeller, Jr., under the superintendence of the Fifth Avenue Baptist Church. Tenth avenue and Fiftieth street is a region that goes by the name of "Hell's Kitchen." Any one going through this district, any hour, day or night, will see the appropriateness of this name. It is here Mr. Rockefeller is building a "settlement house," at a cost of \$100,000, which will have public baths, a manual training school, libraries, class rooms, club rooms, a general assembly room, and a complete gymnasium, with living rooms for eight residents, together with a nursery and kindergarten. Before the work was commenced an expert was employed to live for a year in a tenement on the site, that he might investigate the character and needs of the neighborhood. A part of the broad stream of private beneficence which has heretofore flowed towards hospitals and dispensaries might well be directed to work of this kind, for which just now there is a greater need than for an increase of hospitals and dispensaries, with which the city is well supplied.

ELECTRIC ambulances are rapidly taking the place of the old ambulances very much to the expedition of ambulance work and the comfort of patients. St. Vincent's hospital has had one running for some time. Four new ones are now being constructed, two for the Roosevelt and one each for the Presbyterian and New York Hospitals. They will have a maximum speed of sixteen miles an hour. They are seven and one-half feet long, and can carry three patients at once.

THE IMMUNIZING CURE OF HAY-FEVER.

FROM an article under the above title by Dr. Holbrook Curtis, in the *Medical News* for July 7, it would seem as if, quite probably, an effectual and scientific mode of treatment has been found at last for one of the most annoying and refractory among non-malignant diseases. Some two years ago the author reported to the Laryngological Section of the New York Academy of Medicine the results of some experiments he had been making upon a patient who from childhood had suffered from violent attacks simulating the most severe type of hay-fever combined with spasmodic asthma, which completely prostrated her, and usually lasted about two weeks. During the paroxysms her finger-nails would become cyanosed, the extremities cold, and a state of collapse supervened, which required the most rigorous measures to sustain life. These attacks were brought about by any exposure to the perfume of flowers, and so susceptible was the lady to these odors that to pass a florist's shop in the street was sufficient to produce a paroxysm. It was upon this subject, who belonged to one of the best-known families of St. Louis, that Dr. Curtis determined to try the immunizing effect of giving internally the watery extract of certain flowers and their pollen, as well as in small doses by hypodermic injection. He commenced by giving the sterilized infusion of roses, and after two weeks found that the patient could tolerate that flower in her bedroom. The violet and lily-of-the-valley were then successively tried and found equally successful. After being immunized to three flowers it was found that adding others to the bouquet always kept at her bedside did not produce any bad effect, and since then there has been no recurrence of the paroxysms that heretofore rendered her life unendurable. Of especial importance is the curious fact that not only is immunity from attack secured by the mode of treatment, but also, after the attack of pollen-fever or flower-fever has occurred, and the paroxysm is at its height, the attack is at once lessened and oftentimes controlled by the exhibition of the causative drug. This was found to be the case with goldenrod and lily-of-the valley, and also in ragweed coryza. The experiences referred to prompted Dr. Curtis last summer to obtain the services of a botanist to secure the flowers and pollen of enough ragweed to make an experiment on a large scale this year upon so-called hay-fever. The tincture and fluid extract are the solutions most available, and the use of hypodermic medication has been discontinued. The drugs were delivered so late in August of last year that the preventive treatment could not be carried out; but in no case of some eight or ten, in which the treatment was tried at the commencement of the attack, was there anything but remarkable results, even when the enemy had been in full control for two weeks.

Dr. Curtis has several cases on record of goldenrod and lily-of-the-valley corasthma which have been cured

by the *Solidago odora* and *Convallaria majalis* in three or four days; but while these, he says, are interesting as contributive evidence, "the old enemy rag weed is the recognized king of pollens, whose term of office begins on the 12th to the 20th of August in these latitudes, and whose cruel reign is only ended by the first frost." If his theory that this rhinitis *vaso-motor periodica* or *corasthma ambrosiae* may be prevented by giving from two to ten drops of the fluid tincture or fluid extract of *Ambrosia artemisiifolia* t. i. d. in water p. c. during the two weeks preceding the paroxysm is correct, he will consider that he has heralded a great discovery. He concludes by invoking the aid of "disinterested physicians in widely separated localities," who will investigate and report upon the subject.

It is to be hoped that such reports will be forthcoming after the close of the present season in sufficient number to settle finally this very important and interesting question.

WHO ARE "AMERICANS?"

THE editor of the *Philadelphia Medical Journal*, in a recent diatribe headed "Silly Sectarianism and Puerile Patriotism," comments sarcastically upon "the wonderful logic," which led the nominating committee of the American Medical Association to ask when the proposition was before them to choose as president a man who was not an American voter, "Would the British Medical Association come to America to get a president?" The editor thinks it should have been replied, "that the United States is by no means all of America, and that the British Medical Association did come to America, and did choose an American president." Moreover, he is strongly in favor of inviting "to our American medical household all good American physicians, whether from Canada or Mexico." Now, while the spirit prompting this hospitable proposal is altogether admirable and worthy of our broadminded contemporary, he is undoubtedly mistaken as to the question of nomenclature involved. The name "American" belongs of right and exclusively to the citizens of these United States; first, because their country constitutes by far the most important if not the biggest portion of the western continent; and second, because otherwise they would have no convenient and distinctive appellation, such as is enjoyed by the inhabitants of each of its other political divisions. A Canadian or a Mexican physician or what not cannot justly claim the broader designation, because he has no need of it, and it would lead in his case to confusion and misapprehension. Neither "sectarianism" nor "patriotism," of whatever sort or quality, has anything to do with the matter.

THE heat mortality in this city in the month of July was one hundred and fifty-two. There were eight hundred and fifty-six deaths from accident and sunstroke during the month in the state.

PUERPERAL ECLAMPSIA.

IN puerperal eclampsia the first thought is the condition of the kidneys, examination of the urine usually showing albumin. At the recent International Medical Congress several cases were stated in which there was an entire absence of albumin, and the consensus of opinion was that the absence of albuminuria was no safeguard against convulsions. The opinion was expressed that puerperal convulsions were not of renal origin, but only found expression in such urinary phenomena as albuminuria, indicanuria, etc. M. Pinard thought the paroxysm was only a symptom, the disease itself being due to hepatic insufficiency and the kidneys only secondarily affected. The forms of albumin found in the urine in eclampsia were peptones of variable composition, and he thought they were the product of toxins circulating in the blood and were eliminated by the kidneys. After the paroxysm there supervened a veritable urinary unloading of albumin, indican, etc., which showed that the blood was hypertoxic at the time. Two cases were mentioned of eclampsia without albumin in the urine, although it contained biliary waste products in abundance and the patients showed marked hepatic antecedents. Biliary derangement readily runs into hepatic insufficiency during pregnancy and the hepatic condition should be closely watched.

AERIAL INFECTION BY SALIVA-SPRAY.

A COURSE of experiments has been conducted by Hermann Koeniger (*Zeitschrift f. Hygiene u. Infektionskrankheiten*, XXXIV., 119), with the object of determining the conditions under which disease germs are transported by minute drops of saliva emitted during the acts of speaking, coughing and sneezing, and held suspended in the air. The author has ascertained that a person speaking, coughing or sneezing in a room where there is no perceptible air current may scatter these germs to a distance of more than 21 feet. They may be driven forward in all directions, or upward to a height of over 12 feet, and are found even behind a person speaking or coughing.

The saliva drops are expelled only when the expired air meets with a certain amount of resistance. They are not disseminated by a simple act of expiration without effort, nor in the pronunciation of vowels. Their dispersal during speech takes place very differently in different individuals. It is trifling from speaking in a deep voice, but may be quite forcible as a result of whispering. The germs thus carried into the air do not remain long suspended. In Koeniger's experiments they were almost always deposited within an hour—most of them in ten minutes—when doors and windows were tightly closed and the air was still.

Koeniger agrees with Fluegge in thinking that it is the constitution of the saliva drops which prevents the germs from remaining longer in suspension. These

drops are real microscopic balloons, each having in its center an air bubble. When this bursts the contained germ, being heavier, falls to the ground. The author's experiments show that colonies of bacteria developed upon the surfaces of sores originate not from a single germ but from several.

The diffusion of saliva drops is most marked when caused by coughing or sneezing. If the germ is bigger than the *Bacillus prodigiosus*—as large, say, as the *Bacillus mycoides*—it is carried a shorter distance, and the resulting danger is proportionally less. Hence the dispersal of germs by this means is most to be feared in the case of the smaller micro-organisms, such as those of influenza, of the plague, of whooping cough, pneumococci, streptococci and staphylococci.

The bacillus of tuberculosis, that of the plague and that of diphtheria are larger than the *Bacillus prodigiosus*, but smaller than the *Bacillus mycoides*.

The more pathogenic microbes there are in the mouth the greater the danger of infection. Washing out the mouth and frequent gargling will lessen the number of such diphtheritic bacilli as are capable of removal, and so far will be of service. Simply holding the hand or a handkerchief before the mouth prevents the ejection of saliva charged with tuberculous bacilli. Talking should be avoided during an operation. Other precautionary measures will readily suggest themselves in connection with this important subject.

REGULATION AND ABOLITION OF PROSTITUTION.

THIS great social question has long been a subject of discussion by physicians and legislators. In some of the European states it has been regulated by law, so far as license and general supervision is concerned, looking always to the protection of the public health. At the International Congress of London and Brussels in 1899, the question of the regulation and abolition of prostitution was fully discussed. Dr. Obozneuko, who is what is termed a moderate abolitionist on this question, discourses at some length on the arguments, "for and against the licensing of vice," as they were presented at these congresses.

Statistics, he says, shows that (1) The spread of syphilis has by no means diminished during the existence of police supervision; on the contrary it continues to increase in alarming fashion. (2) The best representatives of modern medicine deny the old-fashioned notion that prostitution is a necessary evil; on the contrary they say that continence is the best foundation for the health of young men. (3) Police supervision is not and cannot be successful because it must necessarily be intrusted to the lowest grades of officials whose moral and mental caliber is not high enough for the requirements of this work. (4) The protection of the houses of ill fame by the government is a disgrace to Christian nations, undermines the conception of the criminality of prostitution

among the youth of the country, facilitates the indulgence in vice, and guarantees in a measure the absence of ill consequences of vicious practices, thus serving as a direct temptation and inducement to young men to lead an immoral life. (5) The system of surveillance, with its licensed houses and officially permitted system of pandering, not only does not protect public women from abuses, but even by securing the mistresses of the houses under the wing of police protection, increases the slavery of the prostitute and by inscribing them into the rolls of public women, cuts off all possibility of their returning to a decent mode of life. (6) The criminal phases of prostitution should be under the jurisdiction of the criminal courts, and not, as at present, subject to the will of the police authorities and the regulations concerning surveillance. Under the present system much that is prohibited by criminal law is permitted by the police code.

NEW METHOD OF ANESTHESIA.

AN important operation was recently performed at the Lebanon Hospital in this city, by Dr. Gouley in which the anesthetic was given hypodermically into the spinal cavity by Dr. Simon Mark. The report of the case we copy from the *New York Herald*. A local anesthesia was applied to the skin with a spray. Then the long needle of the hypodermic syringe was pushed in slantingly between the fourth and fifth lumbar vertebræ. When the needle fairly entered the spinal cavity a little of the colorless spinal fluid run out. Then the needle was screwed to the syringe and one grain of eucaine injected.

About five minutes was consumed in making the injection. The patient was then prepared for the operation. It was twenty minutes before anesthesia was produced by the eucaine, and the surgeons began their work. The operation was long and tedious, and at the end of an hour the patient showed signs of recovering consciousness to pain.

Dr. Marx then inserted the needle a second time, using cocaine. In two minutes and a half the patient was completely under its influence, and from that time until the end of the operation evinced no sign of suffering. The surgeons were well satisfied with the results of the operation. Dr. Marx said afterward that he should use cocaine in future operations.

Dr. Marx told the physicians present that he had treated about fifty cases, and had never failed to get good anesthetic results when the spinal cavity was properly entered and the agent was injected about the spinal cord. The treatment, he said, had been found particularly valuable in maternity cases, and he was using it in all such cases in his hospital work.

Unlike the use of chloroform and ether, the new treatment seems to be without danger, and the re-

covery from it is rapid and without the distressing features of the older method.

EXCLUSIVE SOUP DIET AND RECTAL IRRIGATION IN TYPHOID FEVER.

UNDER the above head Dr. Seibert, in the September issue of the Archives of Pediatrics, discusses his treatment of typhoid fever. In the first place all remnants of food are promptly removed from the alimentary canal and only such diet permitted to come in contact with the infected surface of the intestine as will offer the least culture media for the typhoid bacillus and its neighbors, and systematically irrigating the rectum during the entire course of the disease. If the buttocks of the patient are elevated on the bed pan, the water flowing gently from the fountain syringe hanging about three feet above the bed, the lower colon is sufficiently dilated to dilute and carry off the accumulated feces. Dr. Seibert eliminates milk from his food, because he thinks it is a better culture media for bacteria than soups. It is true that typhoid bacillus will readily grow in soup, but the food is so quickly absorbed that in comparison with milk curds it cannot aid their sustenance long enough to injure the patient. In the first twenty hours after the purge plain cold water is generally sufficient. Then soups made of meat broths containing oatmeal, barley, rice and peas, strained and well seasoned with salt and pepper, after another two days lentil soup, and the yolk of one egg added to the oatmeal, rice and barley soup so as to allow an adult one-half of a pint of two kinds of soup alternately every three hours, and smaller quantities to children, according to age. Five meals given during the day, at night only fresh cold water, *ad libitum*, as well as during the day between meals. Five to fifteen drops of dilute hydrochloric acid is given before each meal. No other medication was employed. Occasionally strong black sugared tea was used as a stimulant. Dr. Seibert claims to have followed this treatment in St. Francis Hospital since 1899 with satisfactory results.

ABORTION.

DR. OCHLSCHLAGER says where it is necessary to terminate gestation artificially it should be done if the indications warrant within a few weeks after menstruation.

He introduces a curved metallic catheter to the fundus of the uterus and through it injects from forty to sixty minims of the tincture of iodine, putting a tampon over the os uteri to absorb the iodine. The procedure is so devoid of danger that the patient need not go to bed.

Usually the third day a discharge of blood makes its appearance and the expulsive action comes into play. He says he has followed this practice for a number of years, and has never observed any untoward results from it.

GERANIUM IN DYSENTERY.

THE native of South Africa chew the root of geranium for dysentery with excellent results. The British Army surgeons give it in the form of a decoction in milk, and look upon it as a real specific. No failure to cure within forty-eight hours having been recorded.

The Eclectic School recommend the geranium for diarrhea and dysentery in doses of the tincture from ten to thirty drops, and of the powder from 1 to 5 grains. Scudder in his materia medica says, it is not exceeded by any other indigineous vegetable astringent as an active and efficient agent. In chronic dysentery or in the subacute forms of that disease, it is especially valuable, also in diarrhea and cholera infantum.

SIXTEEN TO ONE.

SIXTEEN to one is becoming a serious question not only in national politics but in domestic life. The Colorado State Board of Health informs us that more females than males are born in that State, and there are two deaths of males to one of females. From these facts the startling prediction is made that the time may come when there will be sixteen women to one man in the State, and as women vote in Colorado it may be the entering wedge of the political dominance of that sex on the western continent. About that time may we not expect the money question will be settled on the same basis?

A PHYSICIAN FINED.

A PHYSICIAN was recently fined in New York for fast driving his automobile in an emergency call, the judge saying that the law did not discriminate. If the law does discriminate in favor of ambulances, it ought to be repealed; as the fast driving of these vehicles is a menace to life in the public streets.

NITRATE OF POTASH IN SNAKE BITES.

A TEXAS physician says after long experience he finds nitrate of potash a specific in snake bite. The dose is a teaspoon for a child, a tablespoonful for an adult, well pulverized and given in a glass of cold water, applying it also to the bite.

DR. EDWARD ROBINSON SQUIBB, whose name has been long associated with the preparation of remedial agents, died at his residence in Brooklyn, after a short illness of cardiac trouble, at the age of 81 years. Dr. Squibb retired from active business about fifteen years ago.

BIBLIOGRAPHICAL.

- A **MANUAL OF SYPHILIS AND THE VENEREAL DISEASES.** By James Nevins Hyde, A.M., M.D. Professor of Skin, Genito-Urinary and Venereal Diseases, Rush Medical College, Chicago; Dermatologist to the Presbyterian, Michael Reese and Augustana Hospitals of Chicago; Consulting Dermatologist to the Chicago Hospital for Women and Children and to the Chicago Orphan Asylum, and Frank Hugh Montgomery, M.D., Associate Professor of Skin, Genito-Urinary and Venereal Diseases, Rush Medical College, Chicago; Professor of Skin and Venereal Diseases, Chicago Clinical School; Dermatologist to St. Elizabeth's Hospital, Chicago. Second Edition, Revised and Enlarged, with 58 Illustrations in the Text and 19 Full-Page Lithographic Plates. Philadelphia, W. B. Saunders & Company; 1900, pp. 594. Octavo. Price, \$4 net.

This work, intended for the student and the general practitioner, has served its purpose well, and it has become a standard text-book in the field it was made for.

The present edition has been thoroughly revised and rewritten to accord with advances in the subjects of which it treats. Many new cuts and excellent plates enhance the value of the book.

- A **TEXT-BOOK OF THE DISEASES OF WOMEN.** By Henry J. Garrigues, A.M., M.D., Gynecologist to St. Mark's Hospital in New York City; Gynecologist to the German Dispensary; Consulting Obstetric Surgeon to the New York Maternity Hospital; Consulting Physician to the New York Mothers' Home and Maternity Hospital, etc., with 367 Illustrations. Third Edition, Thoroughly Revised. Philadelphia, W. B. Saunders & Company. 1900, pp. 576. Octavo. Price, \$4.50 net.

This book is considered one of the best for the general practitioner extant. The text is concisely written, clear and comprehensive, worthy the great experience of its author. In the present edition the text has been thoroughly revised, many new illustrations added and the whole made to agree with the period in which we live. The excellent index makes consultation satisfactory.

- A **TEXT-BOOK UPON THE PATHOGENIC BACTERIA FOR STUDENTS OF MEDICINE AND PHYSICIANS.** By Joseph McFarland, M.D., Professor of Pathology in the Medico-Chirurgical College, Philadelphia; Pathologist to the Medico-Chirurgical Hospital; Fellow of the College of Physicians, Philadelphia, etc., with 142 Illustrations. Third Edition, Revised and Enlarged. Philadelphia, W. B. Saunders & Company. 1900, pp. 621. Octavo. Price \$3.25 net.

The immense strides being made in this department of medicine makes it necessary to increase the size of the book in order to keep pace with it. The subject is becoming so vast in its relations to the public health and to our industries, that it is difficult to limit the space necessary to cover it with any satisfaction, notwithstanding the fact that the author has endeavored to confine his work to pathogenic bacteria. Much of the text has been rewritten, particularly such subjects

as "tuberculosis, diphtheria, tetanus, plague," etc., where the advances have been most rapid. It is an excellent book for both students and practitioners on a difficult subject.

THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY.

A new and complete Dictionary of the terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry and the kindred branches, with their pronunciation, derivation and definition, including much collateral information of an Encyclopedic character. By W. A. Newman Dorland, A.M., M.D., Assistant Obstetrician to the University of Pennsylvania Hospital; Editor of the American Pocket Medical Dictionary; Fellow of American Academy of Medicine, together with new and elaborate tables of Arteries, Muscles, Nerves, Veins, etc., of Bacilli, Bacteria, Diplococci, Micrococci, Streptococci, Ptomaines and Leukomains, Weights and Measures; Eponymic Tables of Diseases, Operations, Signs and Symptoms, Stains, Tests, Methods of Treatment, etc., with numerous illustrations and 24 colored plates. Philadelphia and London. W. B. Saunders & Company, 1900, pp. 770. Octavo. Price with index, \$5.

The author has attempted to furnish a book for both physicians and students, avoiding the unwieldy lexicon, as well as the abridged students' book, the object being to make a book which will practically cover both the others, in the interest of economy as well as convenience. It is much more than a Dictionary, with its tests, stains and staining methods, methods of treatment, etc., and convenience of use has been carefully guarded. Illustrations are used where they will elucidate the text better than words. It is a suitable book for the desk for constant reference. The typography is excellent in affording ready reference. If a new Medical Dictionary is required, no mistake can be made in ordering this.

- A **TEXT-BOOK OF THE PRACTICE OF MEDICINE.** By James M. Anders, M.D., Ph.D., LL.D., Professor of the Practice of Medicine and of Clinical Medicine in the Medico-Chirurgical College, Philadelphia; Attending Physician to the Medico-Chirurgical and Samaritan Hospitals, Philadelphia, etc. Illustrated. Fourth Edition, thoroughly Revised. Philadelphia and London, W. B. Saunders & Company. 1900, pp. 1292. Octavo. Cloth \$5.50 net.

This book is too well and favorably known to require anything more than a notice of the issue of a thoroughly revised edition—within a year of the previous one. There are many additions and changes in the text, rearrangement of the subject-matter for greater convenience of the reader, and newer methods of diagnosis and advances in therapeutics introduced, in order to bring the work thoroughly to date. As a text-book, it stands in the foremost rank. The publisher has done his work, as usual.

- STRINGTOWN ON THE PIKE.** By John Uri Lloyd. Dodd, Mead & Co., publishers, New York. 1900.

Prolific as the press has been during the past year in novels of stirring interest and the highest type of literary ability, it has given us nothing better in all the elements of a great novel—realism, pathos, humor and tragic force—than "Stringtown on the Pike." The scene is

laid in a small village on a leading thoroughfare in Kentucky during the Civil War. The characters are so naturally drawn, from the loungers at the village store to the judge, representing all types and conditions of humanity, that the Kentuckian of those days would recognize the accuracy of the picture and the traits of character so peculiar and marked in the history of the State at that period. The story unfolds itself in a simple and natural manner, without any apparent effort of the writer, as though the scenes narrated were reminiscences of what actually occurred, and of which he was an eyewitness and participant. The author's studies in psychology and physics enable him to invest the story of Cupe, an old negro, son of a Guinea Coast chief, an adept in "sign reading," with that psychic force seen in certain mental and bodily conditions, a kind of second sight, revealing with startling accuracy the past and the future. In fact, the thrilling interest and the startling developments of the story turn upon the limitless development of scientific truth, and the climax is reached in the revelation of a chemical fact, too late, however, to save the life of the victim, which will be of the utmost value in courts of justice in showing that expert testimony of a scientific character in our present imperfect knowledge may not always, in case of life and death, be conclusive. In the hands of the skilled dramatist the story could not fail of great success on the stage.

THE STUDENT'S MEDICAL DICTIONARY, including all the words and phrases generally used in medicine, with their proper pronunciation and definitions. Based on recent medical literature. By Geo. M. Gould, A.M., M.D., Author of "An Illustrated Dictionary of Medicine, Biology and Allied Sciences; Editor Philadelphia Medical Journal, etc., etc., with elaborate tables of the bacilli, micrococci, leucomains, Ptomaines, etc., of the arteries, ganglia, muscles and nerves; of weights and measures, analyses of the waters of the mineral springs of the U. S., etc., etc., and a new table of eponymic terms and tests. Eleventh edition, enlarged with many illustrations. Philadelphia, P. Blakiston's Son & Co. 1900. Octavo. Price, \$2.50.

In these times it is no wonder that such a work requires a hundred additional pages to keep abreast the times with its new tables, tests and illustrations. It is especially adapted to the requirements of medical students, and is intended as an introduction to the larger work by the same author, entitled "The Illustrated Medical Dictionary."

PRACTICAL URANALYSIS AND URINARY DIAGNOSIS. A Manual for the Use of Physicians, Surgeons and Students. By Charles W. Purdy, LL.D., M.D., Queens University, Fellow of the Royal College of Physicians and Surgeons, Kingston, Canada; Professor of Clinical Medicine at the Chicago Post-Graduate Medical School. Author of "Bright's Disease and Allied Affections of the Kidneys"; also of "Diabetes: Its Causes, Symptoms and Treatment." Fifth Revised and Enlarged Edition. With numerous Illustrations, including Photo-engravings, Colored Plates and Tables for estimating total solids from Specific Gravity Chlorides, Phosphates, Sulphates, Albumin, Reaction of Proteids, Sugar, etc., etc., in Urine. Pages xvi—406. Extra Cloth, \$3.00, net. F. A. Davis Company, Publishers, Philadelphia.

In bringing his subject to date, the author has added a chapter on the use of the microscope in urinalysis, has extended the range of centrifugal analysis, and added methods and tables for the accurate detection of various agents, some quantitative methods have been introduced, and much of the text has been rewritten. The object has been to make the work clinically as practical as possible. The fact that the book has reached its fifth edition, shows with what favor it has been received and that it has become standard.

"A Book of Detachable Diet Lists for Albuminuria, Anæmia, and Debility, Constipation, Diabetes, Diarrhoea, Dyspepsia, Fevers, Gout or Uric Acid Diathesis, Obesity, Tuberculosis and a Sick-Room Diet-ary." Compiled by Jerome B. Thomas, Jr., A.B., M.D., Instructor in Materia Medica, Long Island College Hospital; Assistant Bacteriologist to Hoagland Laboratory. Second edition, revised. Philadelphia, W. B. Saunders. 1900. Price, \$1.25, net.

BACTERIOLOGY AND SURGICAL TECHNIQUE FOR NURSES. By Emily M. A. Stoney, Superintendent of the Training School for Nurses, St. Anthony's Hospital, Rock Island, Ill.; Author of "Practical Points in Nursing," "Practical Materia Medica for Nurses," etc. Illustrated. Philadelphia, W. B. Saunders & Company. 1900, pp. 190.

This book contains just what the nurse requires to know of the subjects treated, and it should be possessed by any one engaged in this work.

AN AMERICAN TEXT-BOOK OF PHYSIOLOGY. Edited by Wm. H. Howell, Ph.D., M.D., Professor of Physiology in the Johns Hopkins University, Baltimore, Md. Second Edition, revised. Vol. I. Blood, Lymph and Circulation; Secretion, Digestion and Nutrition; Respiration and Animal Heat; Chemistry of the Body. Philadelphia, W. B. Saunders & Company. 1900, pp. 598. Octavo. Price, \$3 net.

This work, written by professors of physiology in the leading medical colleges of this country, has proved a success, and as its bulk in a single volume seemed too great for the purpose for which it was intended, the present edition is divided into two parts, in order to meet the convenience of students. The arrangement of the sections has been changed on account of natural relations. Many changes are found here and there, and the section dealing with the Central Nervous System has been largely recast.

The editor says that perhaps the most important advantage which may be expected to follow the use of the collaboration method is that the student gains thereby the point of view of a number of teachers.

References to literature have been freely given, so that those who desire may obtain fuller information by looking them up.

There is no book extant on this subject that can boast of higher authority behind it, if the leading teachers may be considered as such. The obsolete matter of the subject has been so eliminated that the bulk is not burdensome, the text is concisely and clearly stated, so that it is easily read and understood and the physical part of the work is unexceptionable.

HOSPITAL REPORTS.

CLINICAL LECTURE.*

ROBERT T. MORRIS, M.D.,

Visiting Surgeon Post-Graduate and Ithaca City Hospitals; Member American Medical Association; Academy of Medicine.

CASE 1. Thiersch Grafting for Burn.—This patient received a tremendous burn, and for a whole year there was little attempt made towards repair. The danger of infection, in these sluggishly granulating cases, is not large because of hyperleucocytosis—it is difficult to infect this granulating surface on account of this physiological safeguard; the leucocytes stand there ready for battle. It is this point of hyperleucocytosis which makes many abdominal operations safe where we have pus to deal with; we need not hesitate to allow pus to flow wherever it will over a normal peritoneum in abdominal cases, knowing that it is well protected by leucocytosis. This grayish color of the pus in another day will become sage-colored, due to the sage-micrococcus, which grows in plagues and has a strong odor of musk. This micrococcus often occupies the field at the expense of other bacteria cocci; when this micrococcus occupies the field there are but few pathogenic bacteria that can make headway. To-day, there is not much left to graft; it is nearly all covered up. This area was granulating for one year without attempt to repair, and I have repeatedly covered this area with Thiersch grafts, and they are now practically all adherent. If necessary to take another graft I will do so from the back. Scar tissue consists largely of hyperplastic connective tissue. These granulations look well. Here I have had prepared a blister, and, with a pair of scissors, I first cut, loosening it all about, then roll it upon a piece of gutta percha tissue, which serves as a handle. Now, I have the graft of epidermis already transferred to the gutta percha tissue. As I unroll it, I cut off pieces of sufficient size and place them on the raw surfaces. On account of its being so frail it is better to apply small rather than large pieces. The overlapping of the graft does no harm; the part that overlaps will disappear.

CASE 2. Retroversion of the Uterus.—This woman has a retroversion of the uterus and she wishes again to bear children. I shall not do the operation in which the uterus is fastened to the abdominal wall in this instance. Alexander's method I frequently use here, and in this operation the adhesions must be separated; by opening the peritoneum along the ligaments if adhesion exist they cause much distress afterward, and this is one of the things that make Alexander's original operation not so good a one as the one I am about to perform. The ilio-inguinal nerve is liable to be pinched, and causes much discomfort. I like to make a short median incision bringing the round ligaments through the new opening in the rectus muscle, stitch them together in the middle line, long enough for the round ligaments to hypertrophy in pregnancy. This operation of drawing the round ligament out through the median opening and fastening it to the pubic region is called Doleris operation. Having made a short incision in the median line, beginning one and a half inches about from the symphysis pubis, the linea alba and anterior sheath of the rectus muscle is exposed and incised and the peritoneal cavity is opened. The uterus I find

firmly retroverted in the pelvis. I have now the round ligament and Fallopian tube in my finger, and I am breaking up the adhesions which are present. If Alexander's operation had been tried in this instance it would not have succeeded well, and would have been followed by much discomfort. I am working by the sense of touch rather than by the sense of sight. The adhesions are quite firm. I next will draw the ligament through the rectus muscle; this is done on both sides; there the ligament is fastened. With chromicized catgut the different layers are closed separately and this is the only way by which we can get a perfect restoration of the structures divided. Small catgut is used for the peritoneum, using the finest which will absorb in two, three, or four days, so making a minimum of disturbance to the peritoneum. Having closed the peritoneum I take one or two turns through the rectus and pyramidalis muscles. This takes a little more time, but it pays. These structures that I have brought together will be practically united by to-morrow morning. One advantage of this operation is that you work through one incision instead of through two. The divided structures are neatly coapted. Here is a dead-space which will be completely obliterated; blood clot will obliterate it. These spaces do but little harm beyond leaving the abdominal wall less strong. I use no sutures to bring together the fat, relying upon atmospheric pressure to keep the fat in apposition. Subcuticular sutures I prefer to other suturing in order to avoid stab cultures of the staphylococcus albus. A few weeks ago, in operating for pyosalpinx, I ruptured one of the pus tubes and flooded the abdominal cavity with pus, yet the wound healed by primary union. The pus went over the normal peritoneum in great quantities, and the reason why infection was avoided was because the abdominal cavity was flushed repeatedly with hot saline solution and so carefully cleansed. Dr. Clark, of Johns Hopkins Hospital, brought this treatment to us. There are two things that should be borne in mind here—one, the use of the subcuticular suture to prevent stab cultures of the staphylococcus albus; second approximate the fatty walls by atmospheric pressure; never suture the fat. I now apply aristol powder, bichloride gauze and cotton; this is to prevent the bacteria from getting through the dressings.

CASE 3. Abscess of the Lung.—This case of abscess of the lung began as the result of a pleuritis and pleuropneumonia. There was consolidation over the posterior surface and apex. There was amphoric breathing over the anterior surface of the right lung. There was pus in the bronchi which the patient expectorated by coughing. The cavity there apparently had not closed and the case has been in a quiescent state for some months. The pus cavity will not close because the adhesions will not allow a proper contraction of the lung. A few years ago a resection of the ribs would have been done to allow the lung to contract. But, at the present time, the method of Dr. Murphy, of Chicago, of compressing the lung with nitrogen gas introduced into the thoracic cavity, offers advantages. This allows the lung to be compressed, forces out the pus from the cavity into the bronchi, and permits of secondary adhesions taking place. If you can succeed in this way, causing a collapse of the lung, emptying the pus cavity, simply by the pressure of nitrogen gas outside of it is a much better procedure than any so far attempted. We are fortunate in having the inventor of this new treatment with us to-day, who will address you on this subject.

Dr. John B. Murphy, of Chicago:—Gentlemen: The

* Delivered November 15, 1899, at Post-Graduate Hospital.

field of surgery of the chest is only now in its infancy. I believe it has a great future, even greater than abdominal surgery. That may seem an extravagant statement to make, but I believe it, and do not think it is an extravagant statement. The great question now is can we make surgery of the chest a practical surgery. Can we remove primary foci of tuberculosis? Can we remove them by operation? Can we remove them when they are but small? We know that in all cases in which post-mortems are held 75 per cent. had tuberculosis; we know that 25 per cent. had active tuberculosis; that 50 per cent. of these died from tuberculosis; the cured cases were by encapsulation; therefore, we know that 50 per cent. of the cases of tuberculosis are cured by Nature, and if Nature can cure such a large percentage can we not do something? Abscess of the lung may originate from suppurative tubercular processes, and may finally rupture into a bronchus; it may originate from a pneumonic process, from a septic embolus, etc. Now, what is to be hoped from this method of treatment, and what are its dangers? We can cause a cessation of expansion of the lung by such an injection; if no adhesions we can cause an approximation of the walls of the abscess and a uniting of the granulations. Cicatricial contraction is not alone sufficient to cause an approximation of the walls; in addition then there is the constant pressure present. The pus may come out through the mouth or be inhaled into the other lung; if the latter happens we then get a septic pneumonia, and both lungs would then be incapacitated, one by a septic pneumonia, and the other by the abscess. Dr. Lemke, of Chicago, reported 400 injections with only two accidents, and these accidents were readily avoidable. In cases of abscess of the lung where the pleural cavity is filled with nitrogen gas, when fluid appears it can be coughed up and no harm result from it; but, in one instance, an operation was performed, an incision made, and the lung collapsed; as it did so pus came out of the mouth; the lobe was fastened outside the incision, but the next day, a pneumonia developed and the patient died. If I had attempted to do what Dr. Morris is to attempt to-day, I could have saved that boy. Twenty or thirty cases of hemiplegia have occurred, produced by gas getting into the circulation; none of these cases were fatal, however. Another accident happened to a man on the table, with the needle inserted; the man coughed, the needle injured blood vessels, and the patient died from hemorrhage. Both these accidents could have been avoided. If adhesions are present the abscess cannot collapse; an examination on the following day will show whether adhesions exist or not. Remember, that if there are no adhesions, so that the lung may collapse, there is no necessity of opening the chest.

Dr. Robert T. Morris (continued): The abscess in this man opened at once in the neck externally, and is now open by way of the right bronchus. I find that adhesions prevent collapse of the lung when nitrogen is introduced into the pleural cavity, so I now resect a rib behind the right scapula and introduce a scalpel into the lung and come to a large collection of pus nearly three inches from the surface. A rubber drainage tube is introduced and the cavity is flushed with peroxide of hydrogen.

—The late Dr. John Ashurst, of Philadelphia, divided his three thousand books between the libraries of the College of Physicians and the Protestant Episcopal Hospital in that city.

THE NEWER TREATMENT.

REPORTED FROM VARIOUS CLINICS.

Acute Articular Rheumatism with Transient Albuminuria.—The man that will be brought before you presently is an Italian, twenty-four years old. His family history tells us that one brother has been in this hospital for rheumatism. His own previous history is negative. The present attack began with pain, tenderness, redness and swelling of the joints; there was no chill, no nausea and no diarrhoea. Almost all the joints of the upper extremities were quite painful. He sweated profusely at night. The tongue was coated; there was no cough. The temperature on admission was 101° . The physical examination was negative; there was no sign of disease in heart or lungs or abdomen. When I saw him first on February 19, seventeen days ago, there was quite marked swelling, tenderness and redness of both wrists, there was also pain in the shoulders, but not much in the elbows.

He was put on ten grains of salicylic acid every hour until six doses had been taken, or one dram in the twenty-four hours, and this was to be given for three days.

You could probably tell from what you know that this man is suffering from an attack of acute rheumatism. He has had fever of a moderate degree. It was $102-2-5^{\circ}$ soon after he arrived, and it has never been any higher. It soon descended to 101° , even yet it is slightly elevated, having been up to $99-2-5^{\circ}$ in the course of the last day or two.

I think I have said that acute articular rheumatism is a special inflammation of the structures in and around the joints, with great functional disturbance; it is erratic, and it does not lead to suppuration. There are different forms of rheumatism. In some cases it is difficult to make a precise differentiation between articular rheumatism and muscular rheumatism, and you can't distinguish between muscular rheumatism and myalgia. In myalgia you have stiff neck and lumbago, and it may be said to be first cousin to muscular rheumatism. This, however, is unmistakably a case of acute articular rheumatism. The diagnosis is easy. The prognosis in cases of this kind is almost always good. They rarely die in this climate, but the disease may damage the heart.

In this case there is no distinguishable injury to the heart. The pulse is good. To my mind the most definite indication that the heart is beginning to suffer, is an irritable character of the beat, and it is sometimes difficult to judge whether the irritability in a given case is due to a rheumatic origin, or simply to the influence of a febrile disease. There is no reason to think that this man has any injury to his heart. The cardiac condition is as much a part of the disease in some cases as is the involvement of the joints. This heart has a distinct systolic murmur, which is louder at the pulmonary region than at the apex. Can this be due to rheumatism, or is it from some other cause? I think it is due to an anæmic or blood murmur, and not to any organic cause, a very important matter of difference to the patient. How can we make the distinction between the two? In a hæmic murmur we hear the sound louder at the base than at the apex. Still if you depend on this you will not infrequently make a mistake, as it is louder sometimes at the apex. It is really more a matter of experience in listening to the difference of sounds.

Now I will say a word or two in regard to the treat-

ment. I have told you before that salicylic acid is the medicine used now more than anything else in rheumatism, and I told you this man was given ten grains of salicylic acid, not the sodium salicylate. I usually give it in two five grain pills, and in milk. In giving salicylic acid you are giving you must remember two times as much as you would in the same amount of sodium salicylate, and if you give it on an empty stomach, the stomach would be disturbed. Since we began this treatment, the joints are much improved and the temperature promptly descended and has not risen to the same degree that it was about the time of his admission.

In the days when I first came to the hospital we used to say that it took six weeks to get over an attack of acute articular rheumatism. This is not perfectly true to-day, but the progress is still slow. The effect of salicylic acid is much argued now, but this is generally agreed, that it has the effect of relieving the pain, but not much in shortening the attack. If you look for it to shorten the attack you are frequently disappointed. The attack, though, will be much more bearable and less dangerous if the pain is relieved.

This was to be given for only three days. I told you that you must not continue the use of salicylic acid, for it will do harm. After the three days this man was given acetate of potash 15 gr., and bicarbonate of potash, 20 gr., and was to have it every four hours. This does not do any harm, and the man is recovering.

Now when the man came in his urine was examined, and it was almost solid with albumin. This might be a serious matter. You might think there was a furious inflammation of the kidneys and the man was in danger of uræmic convulsions. When I first saw him he looked very comfortable and not at all like a dangerously sick man. We put him on pilocarpine, because it was thought that he might have uræmic convulsions. I forget how much was given, it is not recorded here. But the next day there was a little bit of albumin, the next day a trace, and then it was gone. Now it is an important thing to be able to estimate the meaning of this albuminuria, at least in so far as what you are to do. I have frequently seen this in the course of diseases and then seen it soon disappear. A servant girl came here some time ago; she had been taken with a violent headache, and her urine was almost solid with albumin. She was sent here because it was feared that she would have uræmic convulsions. We decided it was one of those transient attacks, and we treated her for the headache, and she became well. I do not see why it is not reasonable that one should have with congestion of the kidneys an acute violent albuminuria, just as one may have an acute diarrhoea. Why it should disappear in this manner I do not know.

It is important for you to know that this may happen, and to know something about the prognosis if it does occur.

There are so many diseases the treatment of which is unsatisfactory because they are incurable, that it is highly satisfactory to find a disease that we can treat with such good results as acute articular rheumatism.

Typhoid, Following Simple Continued Fever.—I am going to show to you a man that I did show you once before, and I will go over his history again. He is eighteen years of age, and is a tailor. I brought him before you some time during the first two weeks of his stay here; and I told you then that he had fever, and had no other symptoms. No symptoms, for instance, of typhoid were present except the continued

fever. There was no diarrhoea, no spots, no hebetude, the tongue was almost normal, there was nothing peculiar about the complexion, and no epistaxis. I don't think his pulse was dicrotic. His blood was sent for examination for the Widal test on the 9th of February, and the report was negative; and we did not think it would be just to put it down as a case of typhoid fever if nothing else happened, and we should put it down as a simple continued fever. I told you at the same time that I had seen patients with a simple continued fever, apparently convalescing, and then turn around and have typhoid fever.

This man's temperature was 101 1-5° when he was admitted; then it went up to 102 2-5°, and it went on this way for two weeks, when it fell to normal. He was apparently convalescent and he looked well. The temperature never was exactly subnormal; it never went down to 97°, as it usually does after typhoid. Then without the slightest reason it rose suddenly. It went up to 102 4-5°, and with the return of fever his tongue was coated, spots appeared on the abdomen, and during those sixteen days the case was a typical attack of mild typhoid. We sent his blood for another examination on the 27th of February, and this time the result of the Widal reaction was positive.

We have often heard that students should not be told these irregular things, that you should present only regular characteristic cases before them; but it is better I think to tell the truth about things. The reports of the Widal test in this case would seem to show that it holds good as a diagnostic aid which I have been trying to make you think is not so. In the first attack which I did not think was typhoid fever the reaction was negative, and in the second attack which I knew was typhoid the reaction was positive. Now, although in this case it bears out my diagnosis, yet in cases where we are doubtful it fails us. So I consider the test as a diagnostic aid is valueless. But this man I brought before you as a demonstration of what I told you before, that people do sometimes have attacks of simple fever from which they apparently convalesce, and then go into a regular form of typhoid. Now this is a thing that you ought to know. This was strongly impressed on me first when I attended a woman that had an attack of simple fever like this. In about ten days she was apparently convalescent, and I bid them good-bye; then in the course of a few days I was sent for again, and the woman went through an attack of typhoid fever in due form. In that case it was not a mild attack, as we have had here. The explanation of this I cannot give.

The treatment has been the ordinary treatment of typhoid. Muriatic acid has been given, 5 m. every four hours. He has been sponged every time the temperature reached 102°. We have them sponged here every three hours, and the sponging lasts for about fifteen minutes. Once this man had whiskey for a short time, but I had that stopped. So the treatment has consisted in the muriatic acid and the sponging. During the first attack he was sponged once, but he has been sponged six times in the second attack.

I might say a word in regard to the sponging. I am no believer in the cold plunge bath in typhoid fever; but I do believe that its use was beneficial in introducing the more free use of water. We used to talk of sponging the patients, but it did not amount to much. But now the systematic treatment by sponging consists in the patient's being wiped over for fifteen minutes with cold water. The directions here are that the abdomen should not be sponged. A large piece of patent

lint is soaked in the water and laid over the abdomen. Then, you can imagine the body as divided into seven parts, the head, the front of the thorax, the back, the two arms and the two legs. About two minutes are given for each part. The nurse places the pad over the abdomen, then takes a piece of patent lint and sponges the head. I should say that a gum sheet and a blanket are put under the patient in the first place, and the patient is covered with a blanket. After the head, the nurse somewhat uncovers the chest and sponges it for two minutes. Then the arms are entirely uncovered when sponged, and this helps the chilling process. Then the patient is turned over and the back of the thorax is sponged for two minutes. Then one leg and then the other is sponged. If you give two minutes to each part the whole process takes about fifteen minutes.

What temperature should be used for the water? Now this is one thing you can't do the best way in a hospital. The treatment is too routine. It is like the "laws of the Medes and Persians," and the same process is carried on day and night. I think it would be better if there could be more supervision. I think the patients are sometimes sponged when they are too chilly, too blue. Sometimes I think they should not be sponged, and perhaps not at all at night. In the fall, during the colder weather, I noticed a number of times that during the bath they were chattering and blue. What temperature should be used? You see them using a basin of water with ice floating around in it. I directed that the temperature of the water should be between 50° and 52°, and if this seemed too cold, it should be higher. In time I think we will systematize this treatment more accurately. We may very likely omit the sponging at night. Upon the whole the use of the bath has made a decided improvement in the treatment. I remember very well the first time I saw this treatment applied. It was quite a number of years ago; and the plunge-bath was so strongly advocated, that we had to try it here. It was the first patient I ever saw "tubbed." Two or three nurses came to the bed, and enveloped the man in a sheet, and lifted him up by the head and the heels and put him in the tub, with the poor wretch shivering and shaking. Then he was lifted up with the sheet all running water, two sticks were put across the edges of the tub, and he was laid on these two sticks, sick as he was, while one of the nurses wrung water out of the sheet! It made me sick. But he got well; and that is the main end of the matter!

A Case with an Uncertain Diagnosis.—This patient is fifteen years old. His history is as follows: He was always fairly well and able to go to school. Eight days ago he was hit on the head but I could not find that that was the cause of this condition. Five days before coming, he was taken sick with pain in his head and back, and marked tenderness, some irregular chills, rigor and vomiting. There was some slight blood-stained expectoration, but no cough. He laid quietly on his bed. His pupils were equal, there was no photophobia. The neck was stiff, so that when you lifted his head the whole body came up. The knees were painful. The examination of the lungs, heart and abdomen was negative. His blood was sent for examination, but the report has not returned yet.

The tongue is hardly tremulous, it is reddish in the center and yellowish round the sides. The neck is stiff, though not very markedly, as at first. The tongue when he first put it out was tremulous. On admission the pulse was exceedingly dicrotic. This characteristic has disappeared. The abdomen presents no

characteristic appearance—no rash, and there is no pain in the abdomen. His temperature has been up to 101 4-5°, and has never exceeded that—a moderate continued fever. Now what are we dealing with here? He was constipated, but when he was given an injection on the day of his admission, he had two soft stools. The bowels have moved three times since, and all of the movements have been soft and yellow. I can hardly say decidedly whether he has diarrhoea. The character is of diarrhoea, but the number is not. I should say he had a tendency to diarrhoea. There are no spots, no hebetude, not the slightest delirium—he is perfectly wide awake, and aware of what is going on. His tongue looks quite like the typhoid fever tongue, though it is not tremulous; he had no epistaxis; the pulse was dicrotic, but that has ceased; he has got a stiff neck. Those, so far as I can remember, are the characteristic conditions. The indications are somewhat conflicting. There are three diseases among which you can choose to account for his condition. These are typhoid fever, meningitis and myalgia. He may have a stiff neck and a stiff back from myalgia or muscular rheumatism. Which of these three has he got? I cannot tell at present with certainty. I don't think it is meningitis. The moment I saw him I thought of these three things as possible considerations. I think it is unlikely that it is meningitis, and I can't tell why; but it is simply an impression from the way the boy looks. There is something so slight that I can't tell what it is in the peculiar appearance. This drove me back to the idea that it was myalgia or typhoid fever. You see the tongue is rather characteristic of typhoid and the loose movements look very much like that, and then you may have typhoid without any stupor. If it were myalgia he would not be apt to have a dicrotic pulse or diarrhoea.

Hereafter you will find often that when you want to make your diagnosis you should maintain your condition of balance of mind till the case has taken such shape that you will be able to tell definitely. The pain in the back of his head, or neck, was so violent that we directed our attention to the management of symptoms. He was given bromide of potash, 5 gr. t. i. d.; then the next day he was given 1-12 gr. extract of belladonna and $\frac{1}{2}$ gr. powdered opium every four hours, afterwards every two hours.

If this develops as typhoid fever, we shall put him on the regular treatment for typhoid fever. The probability is that it will turn out as typhoid fever.

"Cramps" in a Colored Woman: Diagnosis and Treatment.—This patient shows a condition which is simple enough in some respects; yet it should be interesting to you as a matter of diagnosis and treatment.

The woman is twenty-eight years of age, and came into the hospital quite sick. Her family history shows no hereditary disease. She had measles and scarlet fever at six. She was married five years ago, and has one child three years old, and healthy. Six weeks ago a slight attack of the grippe which kept her in bed seven days. She improved, and has been in good health until eight days ago, when one evening on coming to her house she was suddenly seized with pain over her bowels. She vomited mucus, and had diarrhoea. No headache, no cough, no nose-bleed. The pain centered at the umbilicus, and extended an inch around. It was so strong that she could not endure the weight of the bedclothes. She vomited several times in the eight days; and was sick in bed three days before coming to the hospital. We have here a history which is somewhat vague and indefinite.

She was in bed three days before coming to the hospital, with diarrhoea and vomiting, and in addition had this severe pain about the umbilicus. Then in addition to these symptoms she has had some fever varying between normal and one hundred.

The abdomen is normal in appearance—not full. There is not any delirium nor has there been. The tongue is slightly tremulous and coated. The pulse has been between seventy-eight and eighty-eight. Physical examination of the heart and lungs showed us nothing at all.

I do not think any mistake can be in the diagnosis if we say it is an attack of acute indigestion, or “cramps” as they call it. It seems to occur much oftener in persons of her race. It probably is caused by some imprudence on her part; and no amount of advice would be of any use, on account of their ignorance of the way of living.

The patient was placed on a diet of peptonized milk, being given two ounces every two hours. Then she was given $\frac{1}{2}$ grain of nitrate of silver, and subnitrate of bismuth three times a day. The treatment has been good enough, although it is not just what I should have given her. She has been improving, and it is the best way to “let well enough alone.”

I am not much of a believer in peptonized milk. You will see a great deal in the drug stores and in the papers about the value of peptonized milk as “predigested” food. To speak of predigesting anything is to use a contradiction of terms. You might as well talk of “preassimilating” food. To my thinking peptonized milk is useful for one end, and for that alone. Sometimes patients will retain it when they cannot retain ordinary milk. As a general thing, good, healthy, cow’s milk is much better.

Nitrate of silver is another thing which I do not think does nearly all that is claimed for it.

The keynote to the treatment in this case is: first, placing the patient in bed; second, good nourishment at proper intervals. The proper interval is ordinarily two hours; and the proper quantity two ounces—milk, beef tea, something which the patient can retain. If there is vomiting three or four times a day it is better for you to give food by the stomach, even if they throw it up, than stop giving food and try to sustain the patient by enemata. The bowel becomes irritable and the enemata won’t work. If you give two ounces of milk with lime water and brandy, and in fifteen minutes it is thrown up, you won’t see the milk in the vomited matter. It is mucus. Take a patient even who has cancer of the stomach. If you cease to give food by the stomach the patient will become more weak and sink more rapidly. The stomach in some way seems to exercise a power of discrimination and keeps the milk.

Abscess of the Liver.—*Probably Caused by an Exceedingly Rare Parasite.*—This woman is a peddler, from Syria. As we cannot communicate with her in her own language all we are able to do is to obtain from some of her friends a few points of history which may bear on the case. We are not able to obtain anything about the family history and the woman’s previous health.

So far as we can tell the present sickness dates back to three years ago, when a pain in the right side of the abdomen began. She is the mother of nine children, of whom three are dead, from causes not known to us. She was out at work until two weeks before coming to us. Often she is nauseated, but she does not vomit. She says she never got yellow—her complexion is dark. Her eyes were puffy, but the cedema has disappeared

since coming to the hospital. No history of night-sweats or chills. She has had a temperature of from 99.4-5° to 104.3-5°. It shows a great tendency to zig-zag. She has perspired here every night, and when I saw her yesterday morning she was quite in a sweat.

I always think, in dealing with patients like this, with whom we have no means of communicating, that it is like undertaking veterinary medicine. In this case, however, we have this much of the history, that she has had a pain in her right side for three years, and for two months past it has been quite severe.

Now the right side of the abdomen is somewhat full and swollen. There is a prominence there which certainly looks as if there were some cause of swelling from beneath. There is a sense of much greater resistance than on the other side. It is a hard body. I cannot feel the edge of the liver; yet I feel that the thing which makes this enlargement is the liver. A further reason for believing this is that in the last few days that she has been in the hospital she has developed jaundice, which she would not have developed had this been free from the liver. Now, there is another thing. If you feel over the surface there is in one place a hard spot, a projection. It is the commonest thing to find a nodule in cancer, but then it is usually a large, rounded mass; and it grows in the form of a sphere getting bigger in every direction. This is a sharp, little, irregular mass—not at all the same sensation as of cancer. Then, cancerous masses are almost always multilocular when they appear in the liver, being secondary to cancer in some other part of the body. There are generally many instead of only one, as we have here. The fact of the existence of pain is also against cancer. Then another thing is that jaundice is rather rare in cancer of the liver; unless it grows against the bile ducts, making pressure, and this is rare. While in cancer the temperature is generally subnormal, this woman has fever, an irregular fever, without chills, but occasional sweating.

On the second day of her being in the hospital, she passed a worm. The moment we looked at this we knew it was probably a tapeworm. The head was not there. Dr. Frederick Packer, who is qualified to judge, has examined the worm, and he thinks it is a form of tapeworm that is exceedingly rare. I believe there are only one or two cases on record in which it has been found. It is called *tænia flava punctata*. She comes from a tropical region where they are much more apt to have such things than in our country.

We have narrowed it down now to this: We have enlargement of the liver, which is not cancer. There is a lump or boss upon it. The woman has passed a tapeworm.

What then is the disease? It is one of two conditions. It is either abscess of the liver, or a parasitic growth in the liver. It is probably inflammation and abscess of the liver as a result of hydatid. The development is all in that direction. Everything points more and more to there being abscess of the liver; whether simple or due to hydatid no one knows.

I shall hand this over to a surgeon. I do not believe very much in ordinary exploratory operations; but if this goes on as it is now, the woman will be much better off if it is operated upon.

If it is an abscess or a hydatid cyst which is suppurating she will be much better if it is opened. So I think that is what we shall have done in a few days. For medical treatment we will give everything to improve the general health.

For the tænia I gave her a teaspoonful of chloroform (B. P.) over night, and the next morning 15 m. every three hours of the oleoresin of felix mas, or male fern, or aspidium as it is called now. I think it is better called by the old-fashioned name of oleoresin or felix mas, as there are several different species of aspidium. We gave her this then, to be followed by one-half ounce of castor oil. She took two doses of the oil, one on the same night which she took the male fern, and one the next morning. She did not pass any more of the worm. We will simply have to wait till the worm grows more and give her the treatment again. Often in such cases no more is passed. It may be that the woman has passed it all, and it may be that the head remained, and will continue to grow.

The presence of the worm has no bearing on the case. The important fact is the prominence in her abdomen.

Careful Treatment of a Mild Case of Chorea.—This child is eleven years of age. The history of her family is good. She has had measles, scarlet fever and whooping-cough. A year ago last fall she was admitted to the hospital with an attack of chorea. She has been in good health since. Two weeks before coming this time she had a return of the chorea. That is about the history. The urine contains no albumin and no casts.

You can notice now the irregular movements of her hands, although she is doing her best, and there has been improvement. A little more movement of the left than of the right.

There is nothing in this affection that is peculiar, except that a child in performing an act in which she should hold quiet, keeps up these nervous movements instead. The disease varies from these simple nervous movements on the one hand to such a degree that the patient cannot keep himself on the bed. She holds, as you see, the offending fingers in the other hand, rather a characteristic attitude.

Physical examination brings us to the existence of no disease at all of heart or lungs. The action of the heart is somewhat rapid and there is a slight elevation of the temperature, too. When she was here in the hospital before there was no fever at all.

This is a good case to show you, because it shows the disease in a mild form when it is easy to recognize. The diagnosis would be easy enough, even without seeing the child, from what her parents tell us.

Now what is the prognosis? Good, in a case of this kind. And as regards treatment, you should keep them quiet. Keep them away from sources of irritation. For diet, some simple food,—any ordinary, wholesome food. I do not think I shall keep her in bed. Though she has a little fever, I should think she would be better running around a little.

What medicinal treatment shall we give? The one thing which is said to be most useful in chorea is arsenic given in gradual doses. I have used it before and am using it now, though I am not so sure that it does all it is said to do. You must remember that this disease tends to be self-limiting. The patient usually gets well in about six weeks. But arsenic probably does some good and it does not do harm. The treatment consists in the use of Fowler's solution. You give one drop three times a day, and increase by one drop every day. You must recollect that it may produce swelling of the eyelids or a stomach ache. Cut off the use of arsenic the minute you get either of these symptoms. A few years ago immense doses of arsenic were given and brilliant results were reported, but patients were left almost dyspeptic.

Now don't tell the nurse or the mother to give one drop three times a day and increase one drop every day. They won't understand you. All ordinary people would be extremely apt to make a mistake. They will give three drops the first day, six drops the second and nine the third, and you will soon find your patient is taking more arsenic than you wish. You should make out a schedule, giving the dose for each day. And if any drug is to be administered in increasing doses, you should never depend on directions, but make out a schedule of this kind.

Keep your patient under close observation and as soon as the upper eyelid becomes a little thick and puffy, or as soon as they complain of pain, stop the arsenic. It is astonishing what large doses they can often take without producing these results,

Two Cases of Lead-Poisoning.—I shall show you this morning a patient who is a Russian, forty years old. The family history is rather negative. He himself had measles when a child, but has been in general a healthy man, though some years ago he had a severe cold. He does not drink whiskey, nor alcohol in any form. He has been working for six weeks in Harrison's lead works; and about three weeks ago he was taken with a pain in the abdomen, some slight vomiting, constipation and there has been some headache, but the principal thing is the pain in the abdomen. He thinks he has become weak. There has been some cough. The physical examination is negative, showing no disease of heart, lungs, liver and spleen; the abdomen is somewhat tense and tender on pressure. The temperature when he was admitted was 99 2-5°. It has been up to 100 1-5, a little above normal you see. Yesterday evening and this morning it has been on the normal line.

Now I think any of you that are sufficiently near can see this line on the gums. In being sure that we have the blue line we must be careful not to mistake it for a dirty, dark discoloration common about the mouth, and simply due to the dirty mouth of a man who is not careful about his teeth. It must be on the gums itself, and this is. It is also on the upper jaw. There is here no discoloration of the mucous membrane of the mouth, such as we sometimes see in cases of lead poisoning, especially directly opposite where the mucous membrane rests against the gums. This line is perfectly distinct and unmistakable.

This man shows nothing distinct and characteristic about his abdomen. It is not full nor scaphoid. In cases of lead poisoning there is often the scaphoid abdomen. But in this case it is quite natural.

He has improved much in his general appearance since he came in six days ago. The circulation is now good. He had a dirty, muddy complexion that is characteristic. The man is forty years old, and has some slight stiffening of the radial arteries. It is not very important. A man of that age ought not to have stiffened arteries; but we cannot blame it on the lead, because he never worked in lead till six weeks ago. He says that until this time he worked in leather, and it was only six weeks ago that he began the work that has been the cause of his trouble. He has groaned and complained, and told us he had no idea of what he was going into when he undertook this kind of work.

He has been in some part or other of the work where they have to load up a car or wheelbarrow with lead and take it off and dump the load, and they inhale a lot of the dry powder. Again and again we have men come to us with lead poisoning who have had just this part of

the work. I know of nothing that will produce the disease as quickly. All of them in a short time are taken sick. One man who had been doing this work died in a way that I never saw any other man die with lead poisoning. He was a great, strong man, a Russian, and thought he could bear what others could not stand. In him it produced, not a lead colic, but a furious dysentery, and of that he died. His colon was nearly a quarter of an inch thick. He died of acute lead poisoning.

In regard to the diagnosis of this condition, it is very easy when you are led to suspect the cause in the man's occupation. We see now the importance of listening carefully to all of the history. If you are told that a man is working in lead, and has constipation, and pain in the abdomen, you immediately suspect lead poisoning.

The commonest kind of lead poisoning is the colic—called "painters' colic." Yet men sometimes work at lead all the time without any apparent effect, while some give way in a few weeks. Just as it is in the difference of susceptibility to electricity. The same influences will not always produce the same effect in different men.

There are four forms of chronic lead poisoning. The first is the colic, then arthralgia, then paralysis, and encephalopathy. The first, or lead colic, is the commonest form. Then you may see that arthralgia is the next in frequency; in this country that is not the case. The next is paralysis. There frequently are peculiar paralyses produced; that of the extensor muscles of the wrist is not rare. I've seen many cases of paralysis and a great many more of arthralgia. The worst case I ever saw was in a potter who had to glaze earthen pots. He dipped these pots into a liquid in which a lot of lead was suspended, and he stirred this liquid every time with his arm. It was the most extraordinary paralysis I've seen. Then there is lead encephalopathy, a curious disease of the brain, with convulsions. There is no distinct known lesion of the brain. There are, therefore, these four forms of chronic lead poisoning, and in my experience the arthralgia is the most uncommon.

I've spoken to you of the diagnosis, at least enough to tell you that the ordinary way to get at it is from the occupation. Sometimes you suspect it first from the symptoms. There was one case of poisoning in a lapidary, or one who grinds stones. How should it occur in a lapidary? In grinding the stones they use a wheel of lead and hold the gem in their fingers and press it against the wheel. I don't think weavers get it any more. They used to use a lead shuttle.

The prognosis is good under ordinary circumstances. I told you I saw one man die of lead dysentery. I have seen one or two die of convulsions. But in most of the cases I have seen they get better.

For the treatment we are told there are three indications to be met—eliminate the lead from the system, open the bowels, and relieve the pain. That is the order in which they are ordinarily given, and that is the order in which you will think you ought to treat a case. But don't do anything of the sort. Relieve the pain first. In most cases as long as the pain lasts you won't get the bowels open and you can't eliminate the lead. So don't do these things in the order that they tell you. The pain is the first thing I attend to, and that you can do. It makes no difference to me if the bowels stay closed for a week.

What I order the first thing is that $\frac{1}{4}$ gr. opium and 1-12 gr. extract of belladonna be given every two hours. If the pain is very severe ten drops of laudanum can be given at night. This man is much improved, and his pain has disappeared. We gave him a half-ounce of

Epsom salts morning and evening to get his bowels open, and then, third and last, iodide of potassium, which is supposed to eliminate the lead from the system.

In regard to the quantity of opium it is important to know. You can give the ordinary adult $\frac{1}{4}$ gr. every two hours every day and night, and it won't make them stupid, it won't narcotize them, it won't contract their pupils. But more than that will hurt them. I've seen patients given large doses of morphia hypodermically.

The first thing, then, is to relieve pain, the second to open the bowels, and the third, iodide of potassium to eliminate the lead. Iodide of potassium can be given in doses of five to ten grains three times a day. This man is getting five grains every four hours; but ten grains three times a day is enough, and I will have it changed to that.

The most important thing I've told you is that you should relieve the pain first, and the best way to do it is to give the opium as I have said. You can't relieve it right away by giving large quantities; the results will be better the other way.

The next case is a strange and somewhat obscure case. First I will give you his history. He is an Italian, forty-four years of age, and a tailor. He was admitted the 20th of March. The father and mother, he says, died of old age. The previous history is negative. He has been in this country eighteen years. Two years ago he had an attack of fever. He does not drink much liquor, though he takes a good deal of beer. He says he has eaten large quantities of red pepper. The Italians as a nation are rather given to eating pepper, and other peoples living in warm countries are given to eating hot things. He has attributed his trouble to this. He has not lost much flesh. About three months ago his stomach began to trouble him; he vomited sometimes every day for quite a while. He had a good deal of pain, and vomited a greenish fluid. There was some blood in the stools. There is no cough. The hands and feet have been cold and numb.

Now this man has quite a feeble and weak pulse. He is quite a sick-looking man, yet, in another way of looking at him, he isn't. In feeling casually for his pulse I can't feel it at all; it takes the lightest possible touch. It is exceedingly feeble. The heart is acting very irregularly and exceedingly feebly. There is no murmur to be heard. Now, while I look at this man, there is something strange about it. He is prostrated. There is no obstruction to his breathing. The heart is beating rapidly, yet there is no evidence of heart disease. There seems something behind it all. I looked back at his history again and saw he was a tailor; then I opened his mouth. I saw in his mouth a little blueness. There is a great blue line on the mucous membrane at the junction of the upper and lower teeth. It is distinct. I asked this man through an interpreter whether he were in the habit of biting his thread. When he got the idea into his head he gave us to understand that he did.

Some years ago we had a tailor with lead poisoning. We got some of the thread, with lead in it. There is a gloss on some of the silk thread produced by lead. I don't think there's any question that this man is suffering from lead poisoning. I can't find disease in any of the other organs. The urine presents no symptoms, but by the oxalate of ammonium test it shows the presence of lead. Yet yesterday, when I asked if he had any pain, he said only a little. The vomiting is the principal sign. He is prostrated, and actually I think his life is in danger at the present time.

I have often told you before of the difficulty of treat-

ing in complications. We might be led into treating the lead poisoning alone when there may be something else very important. The question whether there is something else or not I cannot answer positively now. The pulse, as I told you, is so feeble and the heart is so irregular he may die. He seems worse to-day. When people give way after excessive vomiting, it is strange how the voice fails.

We have put him on a small quantity of morphine and chloroform every two hours. We must get some food into him which he can keep and assimilate. He has been in a condition of starvation, and that is the thing, probably, which is going to kill him if he is going to die. We have given him every two hours 2 fluid ounces milk, $\frac{1}{2}$ fluid ounce lime water, and 2 fluid ounces of brandy. We gave this yesterday morning, and he has not vomited since he began taking it. Then, in addition, we gave him 1-24 grain morphia with 1 minim chloroform in 1 fluid dram compound tincture of cardamon. He has in addition occasionally a dose of digitalis, 5 minims every four hours. This has been very judicious, because he did not throw up. If he had vomited, I could not have told but the vomiting was produced by the digitalis.

You may think it strange to give chloroform in a condition like this, but in small doses like this it has very much the same effect as alcohol. The way in which it warms the stomach is wonderful. The result of the treatment so far as it goes is good.

I want to say a word more in regard to the food. When you are dealing with a case of vomiting, the best thing may be to let it alone for the first twenty-four hours. But if you have one that has been suffering from vomiting for a long time, and cease to give food, you are making a great mistake. Even if they vomit as often as every two hours, you may give them something, as milk, at 12 o'clock, and the next time they vomit you can't find the milk in the vomited matter. I do not know what becomes of it, but I am sure that nature has some wonderful selecting power and knows and keeps some of the food. If they do take a little food and vomit it, what does it matter? They have to vomit anyway. You will find they won't live very long with nutritive enemata, and in all ordinary cases I am convinced you will make a mistake if you stop giving food.

ON FEEDING TYPHOID PATIENTS.

Dr. William Murrell, in the *Brit. Med. Jour.*, says: "The question of feeding typhoid patients has of late attracted considerable attention, and the commonly accepted rule that no solid food should be given until the temperature has been normal for ten days may sometimes be departed from with advantage. In this particular case a high temperature was persistently maintained until some addition was made to the orthodox 3 pints of milk in the twenty-four hours. The selection of an appropriate food with which to commence is one which requires much consideration. White of egg is undoubtedly very useful, but for this purpose I think very highly of plasmon, an albumin preparation made from milk from which the fat has been removed. It is a colorless dry powder, free from odor and taste, and is undoubtedly a valuable nutritive agent. I usually give it in teaspoonful doses in five ounces of water every alternate hour. It is assimilated without difficulty, and produces no rise in temperature even in the early stages of typhoid. Dr. C. Virchow, of Berlin, finds that it is best prepared by adding one ounce of plasmon and one ounce of sugar to half a pint of boiling milk, and stirring thoroughly for

a few minutes. A more complete solution may, however, be obtained by allowing the milk to simmer for a short time in a vessel of boiling water. It forms a useful addition to beef tea, soups, and other articles of dietary.

UROTROPIN IN CYSTITIS.

Dr. Emil Suppan (*Wiener med. Blätter*) says "Urotropin must always be employed in every case of urosepsis of the aged with prostatic hypertrophy, in all the non-acute and septic bladder and pelvic catarrhs which are the consequences and complications of this growth, as also in inflammatory conditions dependent upon atrophy of the prostate, neoplasms and diverticulæ of the bladder, and stricture. Omission to do so is a serious dereliction from duty, since by its means the fatal termination may be averted in many otherwise hopeless cases; and in others its continuous administration may so influence threatening symptoms that the patient may live even as long as twenty years thereafter without serious disturbance of his health. There is no possible doubt that Urotropin is of inestimable value in the treatment of urinary poisoning in the aged. It is true that a certain number of these cases, even most hopeless ones, do improve spontaneously; but the percentage is small. It is indubitable also that some of them, more especially those seen late in the disease or in extremis, do go down hill in spite of the immediate administration of Urotropin in proper doses, and in spite of all other antipyretic and strengthening measures. But in a very large proportion of the cases Urotropin has an undoubted and decisive effect. Hence the injunction to begin the administration of the drug at once, and continue its employment for a long time, in every case of urinary fever in consequence of cystitis.

PNEUMONIA TREATED WITH CREOSOTAL.

Dr. Chas. F. Stokes, of the U. S. Navy, reports in the *Brooklyn Med. Jour.* several cases of pneumonia treated with creosotal with the best results.

In doses of 12 minims repeated every two hours, the temperature of 104° was reduced to normal in thirty-six hours, without disordering the stomach. This showing is certainly all that could be expected of any treatment.

SUBCUTANEOUS INJECTIONS OF QUININE FOR CANCER.

Starting with the idea that the presumed cause of cancer is a parasite belonging to the group of protozoa—organisms on which quinine acts as a very active poison—M. Zabolay (of Lyons) has practiced on three women suffering from malignant tumors that could not be operated on, daily hypodermic injections containing 0.50 to 1 gramme of bichloride of quinine.

—Indianapolis telephone subscribers have made arrangements with the central office to have their telephone bell act as an alarm clock. Persons who wish to take early trains out of town leave orders with the manager, and there is no danger of missing their trains. It has also frequently happened that a subscriber has left word to be called at one-hour or two-hour intervals during the night when he has to take medicine, and much inconvenience and worry have been saved thereby.

THE BEARD AND HYGIENE.

THE better to recall to his mind his humiliating ancestors, Nature has gratified man with a beard. The latter, glorying in an ornament peculiar to his sex—though not always—and is proud of it before woman as of an indestructible sign of command and superiority. A little reflection and study will surely lead him back to more modesty.

In the times when the costume of man consisted only in throwing over his skin the fur of an animal newly killed, his hairy system was developed from head to foot with an abundance that we should consider to-day as an affliction. It was then strictly necessary. When clothing was substituted for the natural fleece he used it on the worn places. This we observe with monkeys, whose cages, being so contracted, often oblige them to sit down. The face, escaping this friction, has preserved the hair of the primitive tissue.

From this the beard has power as well to increase in fullness by the monopoly of the hairy sap. That of Meissonier, which demanded a special sack, would very probably have stupefied our prehistoric ancestors. If to spare the scissors and razor they make use of the name of Nature, who has a good back, they demand this, on the contrary; thus courageous Nature cuts his nails, which, left to their free growth, would pass a yard in length and suppress the sense of touch.

As far as the beard is concerned, we can say that from the Egyptians to our day they have sometimes cut it, sometimes let it grow, with an inconsistency entirely devoted to the fashions. But we are not here to talk of fashions, nor of Constantine, who forbade the beard, or of Cleves, who made it a royal attribute. What is its worth from the hygienic point of view? It is not worth very much. Scarcely under the form of heavy moustaches shading the lips can it invoke service by hindering the introduction into the lungs of too cold air, and yet it should not pride itself too much on this. In return for less than the greatest neatness, it is filthy and physiologically it is a net of microbes. It is evident that the inspiration of the air tends to accumulate dust there, as it does in a broom. The least trace of foods, liquid or solid, soils it and makes it an object of disgust; that odors, good or bad, choose a dwelling place there, and, finally, that laziness about shaving is the only argument to put forth by those who praise it.

From a bacteriological point of view it is almost unluckily the receptacle of dangerous microbes to which it serves at the same time for an habitation and a vehicle. Let us have the courage then to declare that we cannot understand how anyone can persist in this, least of all the physician or the soldier, two existences everywhere comparable by their forced contact with promiscuous people.

The soldier makes war only on human beings. His bayonet is powerless against the infinitely small parasites. Alas! the camp and the barracks are far from resembling purified boudoirs! And the physician? Behold the bearded doctor coming from a clinic of varioloid or the plague and approaching a sick person to —. Had he the neatness of the ermine, could he spread abroad odors and microbes traitorously concealed in his beard? Question medical students, wearers of beards, on the tenacity of certain odors diffused through the dissection halls.

The absurd prejudice still remains that the development of the hairy system coincides with that of strength. In this case we refer the fanatics of the beard to Antomarche, who made the autopsy of Napoleon. The con-

queror of Wagram had not a hair on his breast. He did not have, besides, one on his hand.—GABRIEL PREVOST.

THE HYGIENE OF MANIA.*

DR. ANTOIMIE, director of the Insane Hospital of Voghera, recently made an interesting address on the hygiene of mania before the Italian Society of Hygiene. The able chairman of the conference observed that the progress of civilization, the incessant intellectual work, the sharp struggle for existence, and poverty, have for the last twenty years doubled the number of insane people in Italy, which is very nearly 33,000. He went on to speak of the active means that they might take concerning the mania either of persons under treatment or persons who have already been treated, and again persons who might require treatment in the future. For the first mentioned, a vigilant and intelligent care is necessary, in the choice of the duty (or work), which they wish to assign to them in (the) society, so that they be not constrained to fight a battle superior to their physical and mental forces. For the second, it is desirable that the work of the patrons of the discharged patients should not be limited only to pecuniary help, but should surround them by a moral guardianship.

For the third, it would be useful to give to the insane hospitals more room for workshops, thus taking away the appearance of prisons, of great barracks, of cemeteries of the reason.

Dr. Antoinie talked at length of mal nutrition as an important cause of mania, and he concludes by saying that he has not finished the argument, but only to give some advice in view of the benefits that can be drawn from a better-understood hygiene in the treatment of mania.

—According to the *Alienist and Neurologist*, the following story is told by a Scotch physician, now resident in New York, about a friend of his who was for a considerable time the medical superintendent of a lunatic asylum near Glasgow: One day in making his rounds he had occasion to visit the patients in the kitchen, who were preparing the dinner. There were seven of them, all big, sturdy fellows, believed to be harmless. The keeper looked in upon them only now and then, feeling that his constant presence was unnecessary. The doctor unlocked the iron-barred gate of the kitchen and went in. There were five large boilers containing scalding water, ready for cooking for the day's dinner for the patients. One of the lunatics pointed to the boilers and, laying his hand upon the doctor's shoulder, said, "Doctor, you'll make a fine pot of broth," and the words were no sooner uttered than the other six madmen shouted in delight, "Just the thing," seized the doctor, and were in the very act of putting him into one of the boilers, when the doctor had the presence of mind to say, but not a second too soon: "Capital broth, but it would taste better if I had my clothes off." The madmen, with a yell of joy, said "Yes," and the doctor asked them to wait a moment while he went and undressed; but as soon as he got out of the kitchen he turned the key in the door and ordered the keeper to see to the lunatics. The doctor's stratagem saved him from a terrible death, but as a result of the experience he died shortly after raving mad.

*Journal of Hygiene, Paris, France.

Apomorphine as a Hypnotic.—Says C. L. Douglas (*N. Y. Med. Jour.*, March 17): There is one harmless remedy that will produce sleep in a few minutes, even when the patient is suffering with the wildest delirium—apomorphine. There is no hypnotic so prompt, safe and sure. Though the drug is a derivative of morphine, this remarkable property has been entirely overlooked. Apomorphine is equally useful in all forms of insomnia, regardless of the cause. The average hypnotic dose is 1-30 gr., injected hypodermically about one-third of the emetic dose. The dose must be large enough to produce sleep and small enough not to produce vomiting. It should be administered when the patient is in bed, or quite ready for bed. Should it be given before undressing he is liable to be overcome by drowsiness or nausea. As occasionally a patient is very susceptible to the emetic action, it is well to give at first the minimum hypnotic dose—1-50 gr. In delirium, however, a little nausea will do no harm, and such caution is not necessary. If the dose is properly adjusted the patient will fall into a sound sleep in from five to twenty-five minutes, without nausea or other disagreeable sensations. If no results are obtained within half an hour the dose is too small. Vomiting indicates too large a dose. In two or three cases where unusually large doses were required to produce sleep the writer found that emesis could not be produced however large the dose.

The direct hypnotic action lasts apparently from one to two hours. But in many cases of insomnia the patient will sleep all night if he is only put asleep. With apomorphine the sleep appears perfectly natural, and in no case were there any disagreeable results on awaking. Another advantage of apomorphine is that a drug habit cannot be formed, as it becomes a vigorous emetic if the dose is increased to only 1-10 gr. It does not long retain its strength in aqueous solution, and therefore should be freshly prepared for use.

In hysteria the drug gives prompt relief, and the refreshing sleep induced may terminate the attack. In those addicted to morphine the persistent insomnia that follows the withdrawal of the drug promptly yields to apomorphine. It is the only hypnotic that can be relied on in such cases.

Dietetics of Bread and Butter.—Hemmeter (*Md. Med. Jour.*, Feb., 1900) gives the following scientific explanation of the dietetic value of bread-and-butter: "The combination of bread and butter is not difficult of digestion, because the bread contains comparatively little proteid or albuminous matter—from 6 to 12 per cent. on the average—and, therefore, it requires little acid for its digestion; hence the fat (butter), in depressing the acid secretion, favors the transformation of the large percentage of starch in the bread into maltose and dextrose. On the other hand, the fat is a stimulant to the secretion of the pancreas, and thus an abundance of ferments is secreted into the duodenum, and thus is secured the digestion of the starch as well as the albumen and fat." In hyperacidity fat should be used for its depressing effect on the secretion of Hcl.

The Grape Cure.—*Gazetta Medica Lombarda* (No. 35), contains an account of the grape cure, taken partly from the *Journal de la Sante*, which is quoted by *The Medical Magazine*. This method of treatment is recommended by Dujardin-Beaumetz and others for cases of dyspepsia, especially when accompanied by constipation and in the gouty. It is also valuable in chronic diarrhea of dysenteric origin, and Tissot tells a story of

a regiment of soldiers decimated by dysentery, which vanished in a marvellous manner on encamping among vineyards full of ripe grapes. Chronic cystitis is benefited by the alkaline carbonates developed by the vegetable acids of the fruit, but in such cases care must be taken that the grapes are not sour. Cardiac affections are relieved by the laxative and diuretic action, while almost all patients are benefited by the fresh air, exercise and early rising which the rules of the "cure" involve. Grapes grown on volcanic soil are said to have a more markedly stimulant and diuretic action than others. As to the amount, Dujardin-Beaumetz recommends patients to take as much as they possibly can without exciting disgust. The duration of the cure is one to three months.

Ocular Massage.—A system of eye-massage claiming to ameliorate and cure near-sightedness has been successfully used by Professor Dion, of Paris (*H. Wells Woodward, Jour. of Ophthal., Otol. and Laryn.*, Jan., 1900). The Dion method is not practiced with the hands or fingers, but by a specially constructed scientific instrument designed to give a graded amount of pressure on the eyeball, alternating with relaxation. This instrument resembles a large trial-frame with two sliding cylinders extending forward, between which is a dial registering the position of the cylinders, or, when adjusted, the amount of pressure upon the eyes. The pressure is regulated by a thumb-screw. The instrument is carefully adjusted so that the pressure is made in the line of the visual axis upon the closed eyelids. When it is in perfect position the treatment is not painful, although generally attended by an appearance of lights before the eyes, varying in color, more often white, but sometimes red, yellow, green, or violet. At times there will be circles of light, stars, and checker-board effects, but they all soon pass away, leaving no discomfort whatever. The treatment lasts about three minutes.

The first intention of the originator of this method was to treat myopia only; but he now uses it in all cases having defective vision. Personal experience with this method has not been extensive, but the results obtained have been very gratifying.

Mrs. Chadwick, wife of Captain Chadwick, of the United States Navy, has invented a new "carrier" to take the place of a stretcher among soldiers in the field. It can also be used in mines and factories where accidents are liable to occur, and is recommended for fire departments.

The radical difference of this carrier from those now in use is that the patient need not be stretched out, and can sit up with no exertion in the attitude most comfortable to himself. The bearers only use one shoulder at a time, and can change places and thus rest while continuing to march. Having their hands free, the bearers can grasp a hand rail or ladder, can push aside bushes or defend themselves with their guns.

The weight of this carrier is about four pounds, while the stretcher now being used by the English forces in South Africa weighs thirty-three pounds with the necessary poles. The new device is small when rolled up. When not in use it can be carried in a handbag or divided among two persons if in an army on the march.

MISCELLANY.

—The Prince of Wales a Surgeon.—The Prince of Wales has been made a fellow of the Royal College of Surgeons in London.

—Manuel Garcia, the inventor of the laryngoscope, born in Madrid, celebrated in London, on March 17, the ninety-fifth anniversary of his birth.

—*Paris Theatre Médicale* is the name of a new medical journal that has just been launched. It is intended to be the organ of the 650 doctors employed by the Paris theaters.

—Mr. Frederick Treves, in a recent speech, said of the South African conflict that there never was a campaign in which the horrors of war were so mitigated by surgical aid.

—Mr. J. Pierpont Morgan, who sometime ago gave \$1,000,000 to the Society of the Lying-in Hospital for the erection of a new hospital building, has added to this donation the sum of \$350,000 and two large lots, which will give an increased area for building purposes of about 4,000 square feet. The new building will be ready for occupancy in about a year, it is understood.

—W. J. Herdman, of the University of Michigan, has shown by experimenting on the lower animals that a race of giant humans can be raised by the use of the electrical current. Guinea pigs treated to regular exposure of electricity were found to gain in weight from 18 to 24 per cent. over animals which were exempt from the treatment. He also found that if the current was too strong the effect was directly in the opposite direction, growth being retarded.

—In Tokio, the Japanese capital, the proportion of cremations to burials exceeds that in any European city, and annually increases. In 1898 it had risen to 43 per cent. The method employed is uniform for all classes, the charge varying according to the amount of personal superintendence, the first class having two attendants; the second, one for each cremation; whilst in the third class several furnaces are placed in charge of one attendant. The process occupies from three to five hours.

—Naegeli states that the projection of the urethral orifice, which is the peculiar guide to the finger in passing the catheter, is not present in the virgin, unless she has masturbated. After masturbation or defloration alike the so-called bicuspid valve of the urethra, a fibro-elastic structure, which causes the meatus to assume the shape of an inverted V, becomes altered in such a way that it projects and forms the protuberant lip of the orifice. This valve has therefore been called the "second hymen."

—The automobile in country practice is the subject of an article by A. D. Hurd, M.D., M.E., in the *Medical News* for August 11, 1900. Speaking from actual unbiased experience, and after several years of close study and observation, he concludes that "the country physician cannot successfully use any automobile now on the market to make his regular trips over average roads at all times of the year, and an investment made upon different representations will result in disappointment and failure."

—A man and his wife, according to the *Medical Record*, have obtained a verdict of \$10,000 against the

Pennsylvania Railroad Company in the New Jersey Supreme Court, for injuries received by the woman while on a train. A jolt, occasioned by attaching a new car to the train, threw the woman down, and her physician testified at the trial that the accident was the cause of a movable kidney from which she suffered. The court awarded the woman \$8,000, and her husband \$2,000 for the loss of her companionship.

—At the graduating exercises of the Woman's Medical College of Pennsylvania, the Chinese Minister, Wu Ting Fang, delivered an address to the graduates in which he advised them to seek their fortunes in China. In that country, he said, there are about two hundred million women, but the number of woman physicians is very small. Midwives there are, but few or no women with medical knowledge and training, and the speaker said he was sure women doctors would receive a welcome and good treatment in China.

—Victor Horsley (*Lancet*, May 5), reviewing the facts in regard to the influence of alcohol on the brain, shows that it is a depressant, though there may be a temporary increase of activity. From a scientific standpoint, he believes that it can not be true that small doses of alcohol such as people take at meals have practically no deleterious effect. Total abstinence must be the course, if we are to follow the plain teachings of truth and common sense. It is the part of the scientist to point this out and the part of the politician to adopt it as a whole.

—It is stated that a trial shipment of fresh meat from Buenos Ayres under a new or improved process is on its way to this country. The meat is kept in a sterilized air chamber, and it is claimed can be preserved for an indefinite period. On May 19 several bullocks and sheep were killed and put into sterilized air produced by the apparatus, and were duly sealed by the Minister of Agriculture in the presence of a number of witnesses. On June 16 the minister and witnesses opened the sealed deposit and found all the meat in as perfect condition as when first slaughtered.

—From experimental observations made by a German scientist into the effect of various paints upon bacteria, it appears that the kind of paint which may be used on walls is really of considerable importance from a hygienic point of view, quite apart from the question of esthetic appearance and cost of material. Upon oil-paint coatings the bacteria were found to be destroyed much more rapidly than in the case of other paints. It is recommended, therefore, that oil-paint alone should be used in hospitals, schools, barracks and other places where large numbers of persons sleep or are congregated together.

—An interesting speech was made, says the *London News*, at the annual meeting of the new Hospital for Women, London—of which all the physicians, surgeons and students are women—by the eminent surgeon Sir Henry Smith. He stated that he had lately been present at a number of most serious operations performed by women surgeons, and had come to the conclusion that the small hands and delicate touch of women are particularly suitable for surgical work. The same tactile skill that makes a good needlewoman, he intimated, is of the highest use in modern "conservative" surgery; and he added that the results gained in that hospital would compare favorably with those recorded anywhere else.

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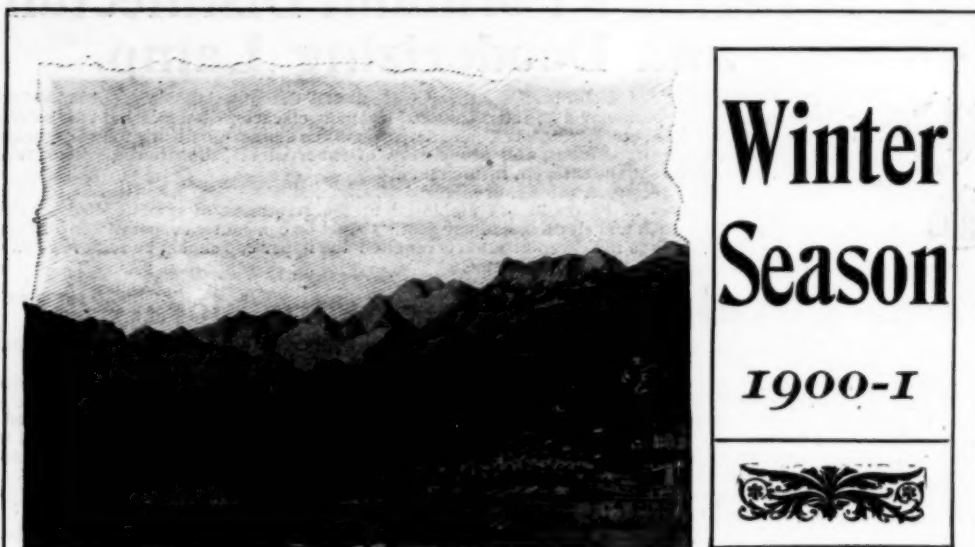
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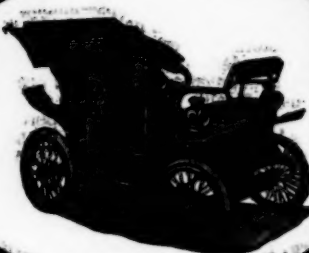
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FORMULA—Following ingredients taken from 5 mos. old goats: contents of lymphatic glands, ducts, etc.; extracts from lymphatic glands, cerebrum, medulla, cord and testicles; also semen from 2-year-old bull's testicles. All ingredients taken before and immediately after death, and kept indefinitely in an active condition.

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ALKALINE, ASEPTIC, ALTERNATIVE.

A PURGATIVE

FOR MUCOUS MEMBRANE, INDICATED IN
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NASAL CATARRH

Case I.—W. C. W., male, aged 28 years, medium size, dark complexion, family history good, had a long protracted spell of Typhoid Fever two years ago. Eight months after recovery he states he began to have trouble with his left nostril, in the posterior nares there was a constant itching, with a dark and rather offensive discharge. Several months later the same trouble developed in the right nostril. The nasal passages became covered with thick crusts, breathing through the nose almost impossible. The left tonsil was enlarged and to some extent inflamed, his palate elongated and congested. There was an occasional slight hemorrhage from left nostril.

I put this patient on Glyco-Thymoline daily, diluted. I used the preparation at my office first with large atomizer, giving the patient a Birmingham Nasal Douche to use himself frequently at home and at his place of business. The Glyco-Thymoline relieved very quickly the constant itching sensation in the nares. I also gave him one application of Glyco-Thymoline to the throat daily. All the unpleasant symptoms are fast disappearing, there is scarcely any trouble in his breathing, crusts have almost ceased to form, no longer troubled with hemorrhage, general appearance much improved. The patient has now been under treatment five weeks. I confidently expect that within a few weeks he will be entirely relieved of his sore affliction.

Case II.—C. J., female, aged 3. Tonsillitis and rhinitis, accompanied by membrane very similar to diphtheria. Putrid odor from nose and mouth. No fever. Had attempted to make a number of applications without much success, owing to the child's resistance. Gave one-tenth grain calomel every hour for ten hours, and applied 25 per cent. Glyco-Thymoline with steam atomizer every three hours. Odor disappeared almost at once, and membrane began to loosen and come away in 24 hours and had soon disappeared. Treatment continued at longer intervals for one week, when patient had entirely recovered.

SAMPLES AND LITERATURE ON APPLICATION.

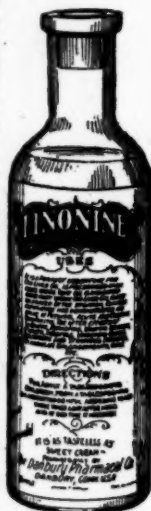
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Cough Sedative, Antispasmodic and Analgesic—Geo. Brown, A. M., M. D., Eye, Ear, Nose, Throat and Lungs,—Atlanta, Ga., says: "In epidemic bronchitis and all the various allied laryngeal affections, codeine is a most valuable remedy for relief for the harassing cough and pain, and when combined with antikamnia the analgesic effects are harmlessly emphasized. This combination is best administered in antikamnia and codeine tablets. No more favorable combination could be had in the cough of phthisis and chronic bronchitis. This is abundantly attested by clinical data which show the combination to be the best succedaneum for opium.

"Another advantage of codeine over morphine, one of special value in bronchial catarrh, is that the patients not only cough less, but also expectorate more easily than after morphine. The cough-dispelling power of codeine is such as to make it indispensable in phthisical patients, and a point of great importance in these cases is that it does not impair the appetite or digestion, and can therefore be used uninterruptedly for months."

The Medical Review, March, 1900—Medical and Surgical Review of Reviews, London, Eng.

Although antikamnia has attained well deserved popularity in America and on the Continent, it has not been used in this country so extensively as it might be with advantage. Its therapeutic value has been attested by great numbers of up-to-date practitioners and its utility *wherever there is pain or pyrexia* has now been as firmly established as the Rock of Gibraltar. As a rule we do not place much confidence in the average medical testimonial but the glowingly favorable reports as to the value of five-grain anti-

kamnia tablets published by prominent physicians and in medical journals of high repute, recording such numberless and undoubted instances where this drug has been of signal efficacy in practice, have established the sound therapeutic position and value of antikamnia entirely beyond the pale of dispute. Experience gained by merely a few cursory observations has but little value, but antikamnia has now been so long and so extensively used by the vast majority of medical men that its efficacy has been tested beyond all peradventure.

Dr. Edwin Geer, in *The New York Medical Journal*, speaks very highly of it in affections of the throat and chest. In cases of incipient pneumonia, especially where cough is troublesome, he has for some time adopted the plan of treatment following: If constipation is present he gives calomel and soda to open the bowels freely, sometimes followed by a saline purgative. He then gives antikamnia and codeine tablets—containing four and three-fourths grains of antikamnia and one-fourth grain sulphate of codeine. The action of the codeine is synergetically beneficial. Unlike morphia it does not arrest secretion in the respiratory and intestinal tracts, while it has a marked influence on inflammatory processes. Neither is it unsafe or uncertain in action, like heroin, the new morphia derivative.

Dr. James Braithwaite, writing in the *London Lancet*, comments favorably upon antikamnia as an analgesic. Dr. Braithwaite's observations have been verified by numerous clinical reports (*The Laryngoscope*). The advisability of combining antikamnia with codeine in the treatment of neuroses of the larynx, coughs, and bronchial affections, seems to be fully established.

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DOSE—1 to 2 every hour. Two Parvules of Calomel, taken every hour, until five or six doses are administered (which will comprise but half a grain) produce an activity of the liver which will be followed by bilious dejections and beneficial effects, that twenty grains of Blue Mass or ten grains of Calomel rarely cause; and sickness of the stomach does not usually follow.

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The most useful application of this Parvule is in periodic irregularities—Dysmenorrhœa and Amenorrhœa. They should be given in doses of one or two every evening at and about the expected time.

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Two Parvules of Podophyllin, administered three times a day, will re-establish and regulate the peristaltic action and relieve habitual constipation, add tone to the liver, and invigorate the digestive functions.



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SELECTIONS.

The Roberts-Hawley Lymph Compound has been in general use about two years. The claims made for this remedy by the originators are certainly conservative. The results reported from its use in certain chronic diseases, heretofore classed as incurable, would seem to justify physicians in using it in these diseases before making a hopeless prognosis.

Either sterilization or pasteurization of the milk can be employed in the administration of Eskay's Albumenized Food. This food, containing egg-albumen as one of its ingredients, is an invaluable food in the treatment of gastro-intestinal troubles of infants.

Prof. Benson records a typical case of diabetes mellitus in a railroad employee aged forty-eight years. The patient had been ailing for some time and was under treatment for gastritis. For six months he had been failing in flesh and strength, and at the time when treatment was inaugurated was voiding about sixteen pints of urine, specific gravity 1060, and containing a large quantity of sugar. Lithiated hydrangea was prescribed in teaspoonful doses every four hours, and a diet restricted to gluten bread, fish, poultry, eggs, spinach, cabbage, string beans, milk, and fish bouillon. As a result he improved rapidly. His urine gradually became practically normal in every particular. At the end of the third week of treatment only a trace of sugar was found.

Doctor Sued for an Automobile Accident.—A well-known physician in New Jersey has been sued for \$25,000 damages for having caused the death of a woman by running into the wagon in which she was driving, with his motor carriage.

Citrophen is a chemical compound of citric acid and parphenetidin, agreeable to taste, sedative, and absolutely harmless.

Plasmon is a tasteless, odorless white powder which is entirely soluble in water, though the solution exhibits a slight opalescence similar to that of milk. The dry powder swells up in water to a gelatinous mass which dissolves as more water is added. On boiling the solution a "skin" continually forms at the top of the liquid in the same manner as in fresh milk. The important dietetic salts of milk are retained in the preparation. Everybody is familiar with the effect of mixing aerated water with milk, the casein separating in fine digestible curds and not in voluminous indigestible clots. Further, it is well known that soda-water-and-milk is an excellent beverage and food for the invalid, especially where sensitive conditions of the digestive organs exist. Plasmon is practically the casein of milk thus separated and afterwards dried in a steam of the same gas (carbonic acid) which separates the proteid from milk serum. Our analysis of Plasmon gave the following results: moisture, 10.76 per cent; mineral matter, 7.24 per cent; milk fat, 0.70 per cent; proteids, 81.30 per cent.

Dr. F. C. Frishkorn has succeeded in aborting several cases of pneumonia with thermol, and believes from his experience that thermol acts by retarding the culture of the pneumococcus in the blood, as well as by its antipyretic action.—*Medical Summary*, Sept., 1900.

In the treatment of derangements of the portal circulation, if the lymphatics are strengthened and stim-

ulated we get an amelioration of the symptoms. Drastic purges are generally used for this purpose, but they will frequently congest the hepatic glands, and in all probability increase the constipation already existing. Chionia stimulates the hepatic glands without producing congestion, and also increases the secretion of bile. Through its regular action on the portal circulation, and its stimulating effect upon the liver, the functions of this organ are increased or restored to normal. In the use of all drugs which act as laxatives or purges it is of great importance that the rectum should be free from impacted feces, and enemas should be used for this purpose, in preference to suppositories, for the latter will often cause a rectal irritation.

Petroleum in the Treatment of Infantile Diarrhoea.—W. E. Fothergill, in conducting his clinical researches, administered Petroleum in thirty-four cases of Infantile Diarrhoea. "The preparation was an emulsion containing 33½ per cent. of Petroleum and the doses varied from 3 ss thrice daily to 3 i every four hours; the usual dose for a child a year old was 3 i of the emulsion (m. 20 Petroleum) thrice daily. In two cases salol was substituted at the end of a week. One child died. In the remaining cases recovery was rapid and complete. There was no derangement of the stomach, vomiting ceased almost before the diarrhoea was checked, and the stools soon recovered their normal color and consistency. The Emulsion seemed also to favor recovery from the accompanying bronchial catarrh. It is said that the whole quantity of Petroleum ingested may be recovered from the feces. Clinical observation shows, however, that petroleum has an influence on mucous membranes other than those of the alimentary canal. Its action in cases of bronchial and vesical catarrh can be explained only by supposing that after absorption from the intestines petroleum is excreted by various organs. These experiments seem to prove that infantile diarrhoea can be treated successfully without the use of opium or astringents.

Angier's Petroleum Emulsion contains 33½ per cent. of purified crude petroleum, 9 grains of the combined salts of lime and soda, with glycerine and emulsifying agents, and was probably the emulsion used by Dr. Fothergill. It is particularly adapted to the treatment of infantile troubles. It does not in any way disturb digestion or irritate the stomach, but on the contrary, benefits them in every way, and children always like to take it. The emulsion may be prescribed to be taken in a little milk or water, which eliminates all taste of the medicine.

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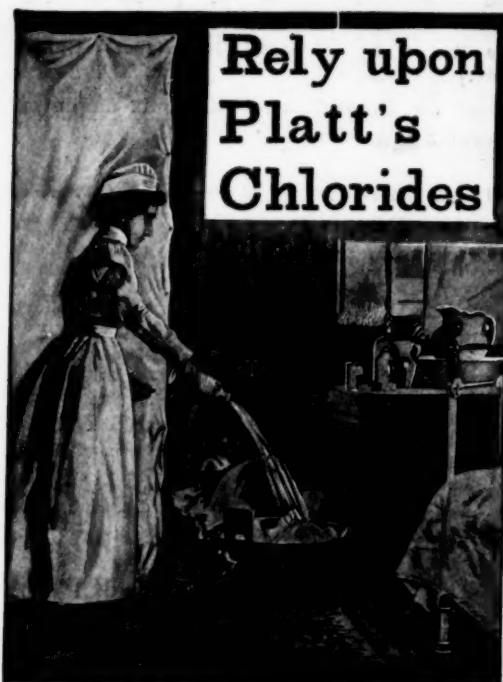
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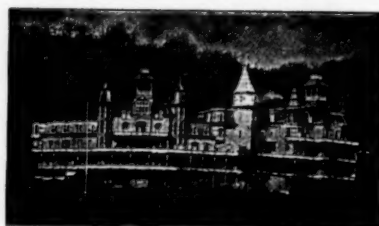
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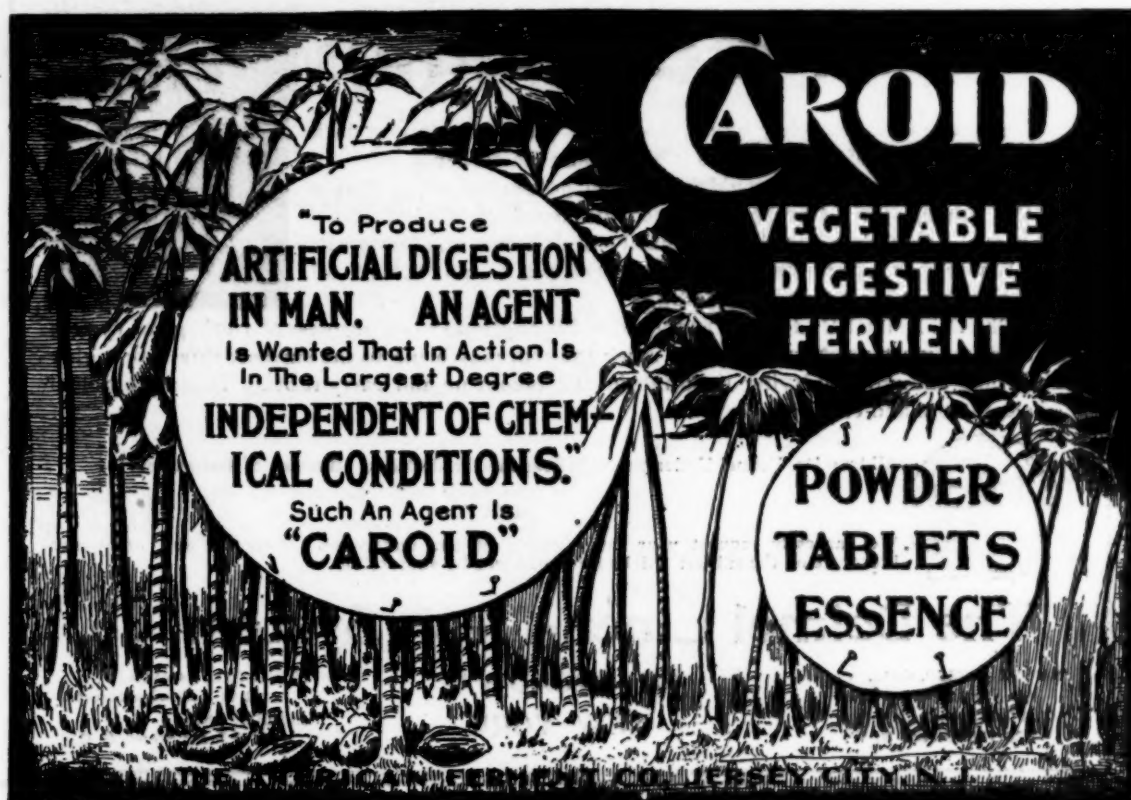
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(From the *Hahnemannian Monthly*, Phil., Pa., Jan., 1897.)

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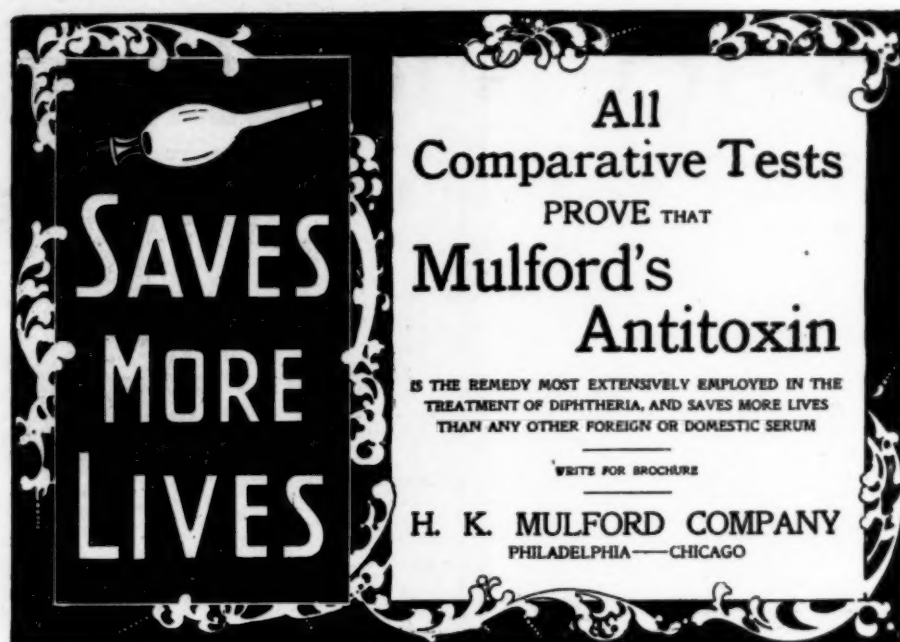
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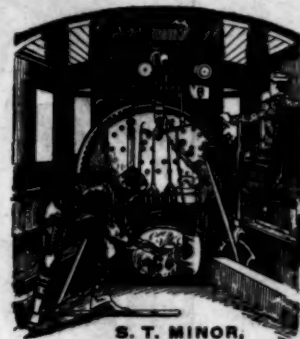
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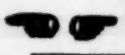
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